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THE ZOOLOGIST:

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OF

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AND

JOURNAL FOR RECORDING FACTS AND ANECDOTES

RELATING TO

QUADRUPEDS, BIRDS, REPTILES, FISHES, ANNELIDES
INSECTS, WORMS, ZOOPHYTES, &c.

THEIR HABITS, FOOD, RETREATS, OCCASIONAL APPEARANCE,
MIGRATIONS, NESTS AND YOUNG.

No. CCXXIV.

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JOHN VAN VOORST, PATERNOSTER ROW.

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I avail myself of this opportunity again to thank most heartily those gentlemen whose constant co-operation has contributed so largely to bring the 'ZOOLOGIST' to its present state of excellence, as well as favour with the public.

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BRITISH MUSEUM

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A

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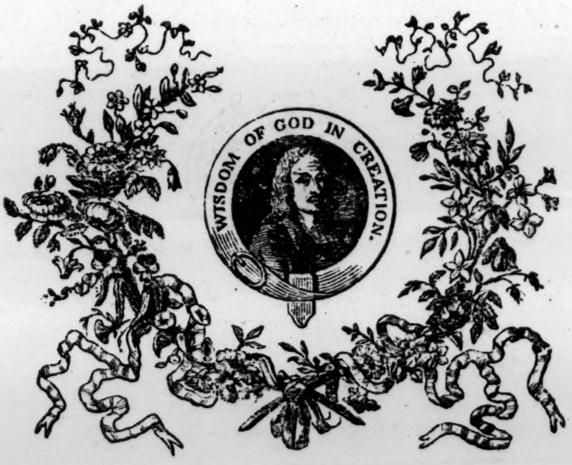
WISDOM OF GOD IN CREATION.

LONDON:
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M.DCCC.LXI.

Nor, time regretting, will I e'er bewail,
Those hours I loitering spent, in woodland, mead and dale.

MILLHOUSE.

It may be deemed unmanly, but the wise
Read Nature as the manuscript of Heaven.

WILLIS.

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The 'Zoologist' will be continued both as a Monthly and an Annual Publication. As a Monthly, it will contain about forty pages of letter-press, occasionally accompanied with illustrations engraved on wood; will be on sale two days before the end of every month; and will be charged One Shilling. As an Annual, it will be sold on or about the 1st *of December; will contain twelve Monthly Numbers, bound and lettered uniformly with the present Volume; and will be charged Thirteen Shillings. An Alphabetical List, both of Contributors and Contents, will be published once in the year.*

PREFACE.

On the completion of the nineteenth volume of the 'Zoologist' I have much pleasure in once more offering my sincere thanks to subscribers and contributors for their continued assistance and support: I regret to see so formidable a list of my own contributions, but this feeling is somewhat mitigated by finding that these are as brief as they are numerous, and also by the knowledge that I have never excluded the observations of another to make room for my own: I may add, that scarcely a line I have written owes its existence to what has been called the *cacoethes scribendi*, each brief memorandum being little more than a compilation from materials obligingly placed in my hands for the express purpose of publication.

Concerning papers reprinted from other works I trust there will be but one opinion: it seems to me that the 'Zoologist' would be incomplete were I not to incorporate these gems of Natural-History literature with the interesting communications designed expressly for these pages; but, much as I value them, I may truly say I have never published such extracts to the exclusion of original contributions.

With regard to the able and logical remarks lately published on the 'Origin of Species,' I wish to disclaim both the merit and the responsibility of the opinions expressed: I desire to reserve my own views on this deeply interesting subject until more mature consideration may render that opinion worthy of respect: nevertheless I am glad to bear my willing testimony to the fact that Mr. Darwin's profound knowledge, chivalrous fairness and extreme courtesy have combined in giving him an advantage over many of the incompetent and irascible critics who have heretofore assailed him: in the 'Zoologist' Mr. Darwin has received fair play; and should the strictures in its pages prove more damaging to his theory than any previous review, it will certainly be because their tone and character are more accordant with the spirit in which that theory is explained and advocated by himself.

Several very interesting problems in Natural History still await solution, and the 'Zoologist' is the only journal in which such solution can be brought before those who will regard it with real interest.

PREFACE.

Ornithologists have not yet shown us how the cuckoo's egg is introduced into nests which, from their situation, the cuckoo herself could not enter: neither have they ascertained what care is taken by the cuckoo of her apparently neglected offspring. Erpetologists have neither disproved nor established the universally accredited assertion that the young adder flies to its mother's stomach as a place of refuge from approaching danger: it is easy for some of us who are sceptical on such points to boast of our unbelief; but how shall we explain away the vast amount of independent and corroborative evidence! Again, how little is known of our bats! and with what gratitude should we not receive a concise summary of their distinguishing characters and habits! In Entomology the problems awaiting solution are numberless. Where in our collections shall we place Acentria nivea? our lamented friend James Francis Stephens associated it with the Neuroptera: Hagen and Westwood guess it is lepidopterous; while Guenée and Doubleday, whose judgment on any question relating to Lepidoptera we should all prefer, absolutely and unhesitatingly reject it from that class: Mr. Brown, of Burton-on-Trent, informs us (Zool. 5919) that he has "proved Acentria nivea to be a lepidopterous insect," and in explanation adds, "The pupa-case puts the relationship of Acentria beyond a doubt; it is clearly the chrysalis of a moth." This may be so, but a prior definition is required. What is the essential difference between the chrysalis of a moth and the chrysalis of a Phryganea? Why will not some of our young entomologists investigate this matter? Let them define the locomotive, the cibarian, the metamorphotic characters of Lepidoptera and of the Phryganidæ; compare and contrast them; and then, returning to Acentria, let them say with which of these it has most characters in common. Our present state of ignorance and uncertainty is not creditable.

EDWARD NEWMAN.

9, Devonshire Street, Bishopsgate Street,
November 21, 1861.

THE ZOOLOGIST

FOR 1861.

Notices of New Books.

'*The Romance of Natural History.*' By **Philip Henry Gosse**, F.R.S. 372 pp. demy 8vo; twelve plates. London: Nisbet & Co., Berners Street, Oxford Street. 1860. Price 7*s.* 6*d.*

"There are more ways than one of studying Natural History. There is Dr. Dryasdust's way; which consists of mere accuracy of definition and differentiation; statistics as harsh and dry as the skins and bones in the museum where it is studied. There is the field-observer's way; the careful and conscientious accumulation and record of facts bearing on the life-history of the creatures; statistics as fresh and bright as the forest or meadow where they are gathered in the dewy morning. And there is the poet's way; who looks at nature through a glass peculiarly his own, the æsthetic aspect, which deals, not with statistics, but with emotions of the human mind,—surprise, wonder, terror, revulsion, admiration, love, desire, and so forth,—which are made energetic by the contemplation of the creatures around him.

"In my many years' wanderings through the wide field of Natural History, I have always felt towards it something of a poet's heart, though destitute of a poet's genius. As Wordsworth so beautifully says,

> 'To me the meanest flower that blows can give
> Thoughts that do often lie too deep for tears.'

"Now this book is an attempt to present Natural History in this æsthetic fashion. Not that I have presumed constantly to indicate—like the stage directions in a play, or the 'hear, hear!' in a speech—the actual emotion to be elicited; this would have been obtrusive and impertinent; but I have sought to paint a series of pictures, the reflections of scenes and aspects in nature, which in my own mind awaken poetic interest, leaving them to do their proper work."—*Preface.*

In these words does Mr. Gosse herald in his new publication, which is one of the most readable and agreeable of all his readable and agreeable books. The plan, if there be a plan, is most desultory—just that touch-and-go style which will secure the attention even of the most indolent reader: thus we leap from lions to butterflies; then plunge into brine and boiling springs; ascend the blue vaults of heaven after insects, and seek flying fish in bed and shoals of swimming fish in a parlour: next we enjoy a sojourn with serpents; then wander among groves of Cacti; and then mount the dragon tree of Oratava. Afterwards we are introduced to the whale and the elephant, the mammoth tree of California and life in a drop of water: to the jackal, the wolf and gorilla; and witness a fatal encounter with bees.

I have really enjoyed this book, it is most delightful; and although the mixture of subjects strikes one as rather heterodox in a work on Natural History, there will be found a method running through the whole that strings the diverse subjects together, producing a pleasant combination, like beads of various size and colour.

Mr. Gosse patronizes the sea serpent, and pleads for him apologetically, but gives us without any hesitation the history of that arch-myth the tsetse: I believe, whenever a competent naturalist shall investigate the subject he will find the tsetse a disease, which the ignorant aborigines have falsely attributed to an insect: but this is of no moment; difference of opinion detracts nothing from merit; and I may truly say that I never read a book with more real pleasure than the 'Romance of Natural History,' and I know none that I can more cordially and unhesitatingly recommend to my subscribers. I hope to return to it again and again for amusing and instructive scraps to insert in the pages of the 'Zoologist.'

'*Actinologia Britannica: a History of the British Sea Anemones and Corals.*' By PHILIP HENRY GOSSE, F.R.S. Demy 8vo; 400 pp. letter-press; twelve plates, printed in colours. London: Van Voorst, Paternoster Row. 1860. Price 21*s*.

I do not like the first title. Mr. Gosse, as we have just seen, abjures the Dryasdust school, abjures the must and dust of the museum, and yet applies a barbarous græco-latin name to this truly beautiful book. I have said barbarous: the word Actinologia is not actually a barbarous compound, being derivable from *actin*, *actinos*, a sun-beam or sun-ray, and *logos*, a treatise or discourse thereon; but it can have no reference to sea anemones. If Mr. Gosse was determined to conciliate Cerberus, or the spirit of technicality, by throwing him a sop, his offering should have been 'Actinotologia,' which is Greek for a discourse on things radiate, of course including radiate animals, and of course, also, sea anemones: this word, moreover, has the great additional merit, always prized by the technicopholists, of being more difficult to pronounce.

Having criticised the title, I will not also criticise the work. Mr. Gosse, treating of sea anemones, is on virgin soil; for I cannot regard the works of Johnston, Milne-Edwards or Tugwell as doing more than indicating the existence of such a tribe of animals; Dr. Johnston, the best of the three, ranks high as an agreeable, discursive and poetical writer on Natural History; but he totally fails in differentiating species among the animals under consideration. Mr. Gosse is the first author on sea anemones who conveys to his reader the idea that he understands what he is writing about; and his plates, printed in colours, most beautifully illustrate his descriptions.

Mr. Gosse's style is always delightful; ample without being verbose; perspicuous without repetition. I cannot do my readers or Mr. Gosse a greater service than by extracting a passage from the history of Actinoloba Dianthus.

"A very heterodox notion seems to have obtained currency, that this species differs from other Actiniæ in that it is incapable of altering its place when once it has selected it. Dr. Johnston says—and his statement is the more surprising since he had seen several hundreds of individuals—'As A. Dianthus is a permanently attached species, and cannot be removed without organic injury to the base, it has some claim to be made the type of a genus.' (Brit. Zooph. p. 234). If this were correct the claim (which I have allowed on other grounds) would indeed be well founded; but the statement is erroneous. Sir John Dalyell, again, while allowing that A. Dianthus shifts its position spontaneously, affirms that it cannot be compelled to do so with impunity. In illustration of this assertion he mentions the case of a very large one which was attached to a stone too wide to be put into any of his vessels. In this emergency he reversed the stone, laying it across the top of a jar, so that the anemone should hang suspended in the sea-water. He had hoped that the animal would voluntarily quit its hold, and descend into the jar, but it did not; and, after stretching itself for some days, it ruptured its body across the centre, apparently by its own weight, and died.

"Notwithstanding these excellent authorities, however, I can unhesitatingly affirm, both that the species travels as freely as any in captivity, and that it may be removed from its attachment with the utmost ease and impunity. In 'The Aquarium' (p. 192) I had given evidence of both these facts, and experience has since confirmed them in numberless instances. Instead of repeating my own observations, however, I will fortify them with the authority of my friend Mr. Merriman, of Bridgenorth, who has favoured me with the following remarks on this subject:—

"'Dr. Johnston's statement is not confirmed by my experience any more than yours. I have a very fine specimen of A. Dianthus, which persisted in crawling up the side of my glass, a circular one, until part of its disk was actually above "high-water level." A few days ago it became necessary to empty my glass. Accordingly I drew off the water, and the Dianthus hung in the most disconsolate way, looking very like an old wet kid-glove. Finding I could not finish my operation without entirely removing him, I worked him off with the back of my nail. Of course at the first rude touch on his base he shrank up into a ball, in which shape he continued, when I dropped him into some water to remain until I could restore him to his own home. While here he became quite like a ball of cotton, so many were the nettling threads that he threw out on all sides. In two hours' time I put him back into the glass, having taken the precaution to place a bit of slate upright behind him, that I might not have the same difficulty again. In less than six hours he had stuck as firmly to the slate as he had previously done to the glass, and he has continued most magnificent ever since.'

"In spite of Sir John Dalyell's assertion that this species is 'less hardy than most,' the fuller aquarian experience of the present day enables us to affirm that no British species is more readily preserved in confinement than A. Dianthus. There are probably thousands of specimens of this fine anemone now living in the aquariums of Great Britain and Ireland; and a large number of these have been several years in captivity. They continue to live and flourish, expanding and erecting themselves with the greatest freedom; nor do they seem at all affected by the turbidity of the water, provided it be free from impurity. I have had some specimens of rather large size continue for many months in water so loaded with green Alga spores as to be almost opaque, yet during the whole period they appeared perfectly at ease, and even increased their number by fissiparous division. It is the frequent habit of the species to crawl up the perpendicular side of the tank which it inhabits, till it reaches the water's edge, a situation which seems particularly grateful to it, for there it remains from week to week, daily (or rather nightly) projecting its columnar form in a horizontal direction, at the very surface, and then expanding its beautiful frills, so that the air bathes a part both of its body and its tentacles.

"I have never seen this anemone increase its kind by proper generation, that is, by the discharge of ova or of young. But no species more freely increases by spontaneous division. When a large individual has been a good while adherent to one spot, and at length chooses to change its quarters, it does so by causing its base to glide slowly along the surface on which it rests, the glass side of the tank for instance. But it frequently happens that small irregular fragments of the edge of the base are left behind, as if their adhesion had been so strong that the animal found it easier to tear its own tissues apart than to overcome it. The fragments so left soon contract, become smooth, and spherical or oval in outline, and in the course of a week or fortnight may be seen each furnished with a margin of tentacles and a disk,—transformed, in fact, into perfect though minute anemones. Occasionally a separated piece, more irregularly jagged than usual, will, in contracting, constringe itself, and form two smaller fragments, united by an isthmus, which goes on attenuating until a fine thread-like line only is stretched from one to the other; this at length yields, the substance of the broken thread is rapidly absorbed into the respective pieces, which soon become two young Dianthuses.

"It is to this tendency to spontaneous division that I would attribute the frequent occurrence in this species of monstrosity, such as two disks uniting into a single column. This is very common. Dr. Johnston supposes that such cases are produced by the coalescence of two individuals which happened to be in contact, and he accounts for its frequency by the gregarious habit of the species. The possibility of two individuals thus uniting remains, however, to be proved; while the fissiparous habit, which is patent, is quite sufficient to produce the phenomenon.

"I have been informed of a case in which a young one was produced by gemmation from the base of the adult, without any previous separation of the fragment."

In this way does Mr. Gosse pleasantly discourse of every species as it comes in turn before him, always convincing his reader how intimately he is acquainted with the beautiful flower-animals he is describing.

‘*A Guide to the Isle of Wight.*’ By the Rev. EDMUND VENABLES, M.A.; and eminent local Naturalists. Demy 12mo; 526 pp. letter-press, and a detached map. London: Edward Sandford, 6, Charing Cross. 1860.

At first I felt greatly astonished that a book of 500 pages could be written about the Isle of Wight, the subject having been so thoroughly worked by previous literary adventurers. Mr. Venables seems to anticipate this feeling, and meets any objections that may arise in the following manner:—

“The number of books professing to direct the tourist to the chief beauties of the Isle of Wight, and to point out to him its principal objects of interest, is already so great that the publication of another work with the same end in view may seem almost to need an apology. Numerous, however, as the Isle-of-Wight Guides are, it has been felt by many that they have hitherto hardly kept pace with the progress of modern research, and that there is still room for one which, while it presents a faithful picture of every part of the island, and furnishes details essential to the rapid holiday-maker and ordinary seeker after the picturesque, may also promote and direct the habits of observation now happily becoming so general, and supply such information respecting the history, antiquities and architecture of the island, as well [as] the natural treasures it contains, as may satisfy every taste, and aid the tourist in the pursuit of his favourite science, whatever it may be.”—*Preface.*

With respect to the “rapid holiday-maker,” I can scarcely fancy him driving about the island with a tome of 500 pages under his arm; neither do I think that “the progress of research” has added much to “the history, antiquities and architecture of the island;” but that branch of Isle-of-Wight science which it is the province of the ‘Zoologist’ to notice has received, and is receiving, constant accessions and illustrations: of course I allude to its Zoology; and this part of the work has been chiefly compiled by Mr. A. G. More, than whom a more careful, more competent or more enthusiastic coadjutor could not have been found.

The sucklers and birds of the island have already been enumerated in the 'Zoologist,' by the Rev. C. A. Bury; and Mr. More has availed himself largely, and very properly, of Mr. Bury's labours: the birds are arranged on the plan proposed by myself in the Appendix to the 'Letters of Rusticus,' and divided into—residents, 58 in number; summer visitors, 28; birds of double passage, 8; winter visitors, 41; and occasional visitors, 85.

The reptiles and fishes are given by Mr. More: among the former the absence of the natterjack is remarkable. Nine common fresh-water fishes—namely, the pike, perch, ruffe, gudgeon, barbel, grayling, chub, loach and minnow—are also absent from the list: the only fresh-water fishes ascertained to be inhabitants of the island are the river bull-head, the smoothtailed stickleback, roughtailed stickleback, tenspined stickleback, carp, tench, rudd, roach, dace, trout, sharpnosed eel and broadnosed eel. Does the absence of the nine fishes I have first named indicate a Natural-History fact, or the absence of observation?

Three excellent entomologists — Mr. Guyon, Mr. F. Smith and Mr. More—contribute a chapter each on insects: Mr. Guyon on Coleoptera, Mr. F. Smith on Hymenoptera, and Mr. More on Lepidoptera. The Diptera, Orthoptera, Hemiptera, Stegoptera and Neuroptera of the island are entirely omitted.

A list of the land and fresh-water shells is given by Messrs. Guyon, Hambrough and More; and this is the most careful and complete of all the zoological lists.

The Botany of the island is also sketched; but this has been so completely and elaborately treated by the late Dr. Bromfield that nothing remained but to give an abstract of his labours, and this has been admirably performed by Mr. More.

It is with confidence, then, that I recommend this volume to the naturalist visiting the Isle of Wight; he will find it a reliable guide, and a pleasant companion when he returns to his inn after the labours of the day have ended.

'*Journal of the Proceedings of the Linnean Society.*' Vol. v. No. 18, dated November 14, 1860. Contains 48 pp. letter-press of Zoology, 56 pp. of Botany; and one zincograph botanical plate. London: Longman & Co. Price 3*s*.

This number contains the following zoological papers:—

1. A List of the Shells observed or collected at Mogador, and in its

immediate environs, during a few days' visit to the place, in April, 1859; with notes and observations. By the Rev. R. T. Lowe, M.A.

2. On the Homologies of the so-called Univalve Shell and its Operculum. By John Denis Macdonald, R.N., F.R.S.

3. On the Occurrence of Gyrodactylus elegans on Sticklebacks in the Hampstead Ponds, January, 1860.

4. Discovery of Alpheus Edwardsii on the Coast of Cornwall. By Jonathan Couch, F.L.S.

5. On the Poisonous Effect of a small portion of the Liver of a Diodon inhabiting the Seas of Southern Africa. Communicated by Sir John Richardson, M.D., F.R.S.

The case recorded of the poisonous effect of the liver of a Diodon, written by Mr. Hugh Jameson, Surgeon to H.M.S. 'Winchester,' is of great interest. Mr. Jameson says: — " About 12.40 P.M., on the 4th of September, my assistance was requested on board the Dutch brig of war 'Postilion,' on account of two men who were said to have been poisoned by eating part of a well-known deleterious fish common in Simon's Bay. I immediately repaired on board, but on arriving found that both men had expired some minutes before. * * * It is said to have been the liver of a single fish that was eaten: it is known in Simon's Bay by the name of the toad-fish. It seems they were aware, or had been warned, that the fish was poisonous, but were resolved to try the experiment, the boatswain asserting that the liver was not so, but rather a delicacy. This fish is from 6 to 8 inches long, and the liver may have weighed about 4 drachms. Dinner had been piped to at 12 o'clock, after finishing which the fatal morsel was cooked: this could not have been sooner than twenty minutes after 12 o'clock. At 12.45 I got on board, at which time life had been extinct for some minutes; so that the period from the taking of the poison until death could not have exceeded twenty minutes." Another account states the time between eating and death to have been seventeen minutes. On a *post-mortem* examination "there was no vestige of anything like the poisonous substance that had been swallowed;" and it is also stated that the "cook who had fried the liver for the others, and had eaten a small portion, exhibited no alarming symptoms."

The name of the fish is rather vaguely given in this manner:— "Aplodactylus punctatus? or Tetraodon, *Cuvier*."

In perusing the paper with that careful attention which so important a communication deserves, I cannot help thinking that sufficient pains were not taken to establish the fact that eating the liver of the fish was the cause of death. It is to be remarked that the poisonous matter was not found in the stomachs of the sufferers; and that the cook, who also ate, escaped harmless. Would it not also be well to identify the fish more positively, and to distribute correct figures thereof as a warning to others?

'*The Canadian Naturalist and Geologist.*' Vol. v. No. 3, dated June, 1860; 80 pp. letter-press. No. 4, dated August, 1860; 88 pp. letter-press. Both numbers illustrated with Woodcuts. London: Sampson Low, Son & Co. Price 3*s*. each.

No. 3 contains the following papers:—

Art. XIII. New Species of Fossils from the Lower Silurian Rocks of Canada. By E. Billings.

Art. XIV. Notices of the Life of the late Professor George Wilson, of Edinburgh.

Art. XV. Notice of Tertiary Fossils from Labrador, Maine, &c.; and Remarks on the Climate of Canada in the Newer Pliocene or Pleistocene Period. By J. W. Dawson, LL.D., F.G.S.

Art. XVI. Abridged Sketch of the Life of Mr. David Douglas.

Reviews and Notices of — 1. The Life, Travels and Books of Alexander von Humboldt, with an Introduction by Bayard Taylor. 2. A First Lesson in Natural History, by Actæa (Mrs. Agassiz). 3. A Manual of Scientific and Practical Agriculture for the School and Farm, by J. L. Campbell, A.M. 4. The British Tortrices, by S. J. Wilkinson [extracted from the 'Athenæum']. 5. The Rudiments of Botany, Structural and Physiological, by Christopher Dresser [extracted from the 'Athenæum']. 6. Professor Hall's Report of the Geology of Iowa. Correspondence. Report of the Meeting of the British Association at Aberdeen [extracted from the 'Athenæum']. Miscellaneous.

No. 4 contains the following papers:—

Art. XXXVII. [the previous article is numbered XVI.] A Systematic List of Lepidoptera collected in the Vicinity of Montreal. By W. S. M. D'Urban.

Art. XXXVIII. Abridged Sketch of the Life of Mr. David Douglas.

Art. XXXIX. On the Track of an Animal lately found in the Potsdam Formation. By Sir W. E. Logan, F.R.S.

Art. XL. Notes on the Coal-fields of Pictou. By H. Poole, Esq.

Art. XLI. On new Localities of Fossiliferous Silurian Rocks in Eastern Nova Scotia. By the Rev. D. Honeyman.

Art. XLII. Note on a Specimen of Menobranchus lateralis taken at London, C.W. By W. Saunders, Esq.

Art. XLIII. On some new Species of Fossils from the Limestone near Point Levi, opposite Quebec. By E. Billings.

Miscellaneous and Reviews.

May I, without offence, recommend a little more care on the part of the Editor in the matter of correcting the press? I do not allude to the occasional misprints, of which so copious an "errata" is given at p. 240, but to errors which mystify the reader beyond all bearing; thus 100 pages are dropped at p. 288; the following page is 189, and the numbers are continued just as though nothing extraordinary had happened — 190, 191, &c. In like manner Art. XXXVII. immediately follows Art. XVI. It is dangerous for those who reside in glass houses to throw stones, and I am well aware of the fallibility of all editors; but these are errors of unusual magnitude, and will render indexing impossible.

'*The Journal of Entomology, Descriptive and Geographical.*' London: Taylor and Francis, Red Lion Court, Fleet Street. 1860. No. 1 contains 64 pp. letter-press and three plates; price 3*s*. No. 2 contains 68 pp. letter-press and five plates; price 5*s*.

The proprietors explain the objects of the journal in the following "Notice":—

"The 'Journal of Entomology' has been projected to supply the want of an entomological periodical devoted to the descriptions of new species, and to the geographical distribution of insects generally. It is intended to figure the new or little-known forms, as far as possible; and with regard to the latter, local lists and monographs will be one of its leading features. The Journal will be published at intervals of three or four months, or perhaps oftener; and the price will vary according to the number of plates and the amount of letter-press."

The proprietors having selected the month of April for making their *début*, their first number appeared with the following papers:—

Art. I. On the Halticidæ of the Canary Islands.' By T. Vernon Wollaston, Esq., M.A., F.L.S.

Art. II. Remarks on the Pollinosity of the Genera Lixus and Larinus. By M. Henri Jekel, Member of the Entomological Society of France, &c.

Art. III. Characters of undescribed Species of the Genus Leucospis. By F. Walker, Esq., F.L.S.

Art. IV. Descriptions of new Genera and Species of Eumolpidæ. By J. S. Baly, Esq.

Art. V. Notices of new or little-known Genera and Species of Coleoptera. By Francis P. Pascoe, Esq., F.L.S.

No. 2, published on the 1st of October, contains the following:—

Art. VI. Descriptions of new Genera and Species of Exotic Hymenoptera. By Frederick Smith, Esq.

Art. VII. On the Coleoptera of the Salvages. By T. Vernon Wollaston, Esq., M.A., F.L.S.

Art. VIII. Descriptions of Six new Species of Chrysomela from the East. By J. S. Baly, Esq.

Art. IX. Notices of new or little-known Genera and Species of Coleoptera. By Francis P. Pascoe, Esq., F.L.S.

These articles appear to contain carefully-written descriptions of additions to the insect fauna of the world, and thus they must necessarily be acceptable to every entomologist. The only paper adapted for citation in the pages of the 'Zoologist' is that by my friend M. Jekel, on the pollinosity of certain Curculionidæ,—a paper, however, which is rather suggestive than conclusive, but one which the author seems inclined to consider as disclosing characters capable of tabulation. Without attempting in any way to undervalue M. Jekel's labours, I cannot say that I am prepared to accept his arrangement of the supradermal coverings of Coleoptera, although I see much utility in his suggestion "to lay bare the derm in order to display its characters." I may observe that M. Jekel's somewhat imperfect knowledge of English may possibly have led him in some instances to use our words in a sense not usual amongst ourselves; but I have not ventured to introduce any alterations, because the meaning is in all cases sufficiently obvious.

"With respect to the tomentosity and pollinose transudations of Lixus and Larinus, I think it will not be out of place to mention here a fact until now overlooked, so far as I know. It appears to me, from long observation of the covering adorning many curculionideous beetles, that nature acts in clothing them by layers or coatings; there is immediately above the derm of the elytra and thorax a thin tomentose squamosity either more or less piliform and opake or very fine silky and bright: this ground-layer, common to many other tomentose Coleoptera, is comparatively persistent, though far more easily rubbed off than setiform or hairy pilosity, and is analogous to the squamosity of species having one layer only: this tomentosity is not produced by exudation, but grows according to the general law, is susceptible of partial or total baldness, as in merely squamose insects, and if rubbed off when the insect is alive would be restored in course of time only. Then comes the second layer, much less persistent (even in non-pollinose species), which in the above two genera, as in many others, is a real pollinose transudation, susceptible of a relatively immediate renewal when rubbed off the living insect. Of this upper layer I need not remark, after the conscientious observations of M. Godart, the highly interesting controversies of MM. Coquerel and Laboulbène, and the experience of M. Rojas, all recorded in the 'Annales de la Société Entomologique de France,' 1851—1857.

"Hence the results in pollinose species are these: specimens may have their pollinosity more or less rubbed off, and show underneath part of the ground squamose tomentosity; others may be completely deprived of that pollinose efflorescence, and show the ground tomentosity only; finally, others, still more rubbed, show only a portion of the latter, &c. Any entomologist, therefore, in describing either squamose, tomentose or pollinose species, should not content himself with the description of so variable a substance only, but note also if there is another layer beneath it, and, in fine, should lay bare the derm, in order to display its characters.

"Exclusive of hair or pile, to which (like naked Coleoptera) squamose, tomentose or pollinose species are liable, one might divide them, according to the composition of their clothing, as follows:—

"1. Col. Monolepida: having a single layer of squamosity or tomentosity, with or without denser markings.

"2. Col. Dilepida: having two layers of squamosity or tomentosity, one inferior with or without denser markings, generally of a pale unicolor hue (gray, ashy or whitish); the other superior, less persistent, easier rubbed off, increasing or modifying the coloration of the markings, when they exist, and filling more or less the areas between the markings.

"3. Col. Paipalepida: ground-layer tomentose, following the same laws as in class 2; but superior layer being a pollinose transudation, more or less deeply colouring the ground, as well as the ground-markings, when they exist.

"To complete the various modes in which the derm of Coleoptera presents itself to the eye of the entomologist, the naked species (always exclusive of hair or pile) should form the fourth class (or rather the first of all), *viz.:*—

"4. Col. Alepida [without scales]."

The Elephant Horse.—A hairless horse is now being exhibited at Mason's riding-school, at Brompton, as an "elephant-horse brought from Ceylon by an officer in the Indian army." The following paragraph, showing how such curiosities may be produced, is extracted from the 'Field' newspaper of the 1st of December.—*E. Newman.*

Another Hairless Horse. — Mr. Buckland's description of an elephant-horse, in a late number of the 'Field,' brought to my recollection a "Nile-horse" of which I had read an account in the 'Philosophical Magazine' for 1801; and as the history of this latter animal involves a curious physiological problem, while it discloses a gross act of showmanship, perhaps it may not be without some interest to the reader. About 1796 a French showman, named Alpy, who had previously been an attendant in the Royal Menagerie at Versailles, exhibited wha the termed a Nile-horse over the greater part of Germany. This animal was almost utterly destitute of hair, for the report, drawn up with great minuteness by the officials of the Veterinary College of Berlin, states that it had only one hair on its whole body, viz., "a black bristle, three-tenths of an inch in length, on the lower eyelid of the left eye." Alpy, of course, told a romantic story about the animal,—how it had been taken, after a terrific hand-to-hand combat, by an Austrian officer from a Turkish bey; how sultans and pachas had offered fabulous amounts in gold and jewels for its ransom; and that it was one of a race of hairless horses whose habitat was on the banks of the upper waters of the river Nile. As the horse seemed to be about fifteen years of age, Alpy was induced to sell it to the Veterinary College of Berlin for fifty louis-d'ors, a very smart sum for a horse at that time and place. The German, French and English scientific periodicals noticed the strange animal, all agreeing that it was of a decidedly distinct race from the common horse; the only point of discussion being with respect to its native country. Professor Nauman, in his 'Manual of the Science of the Horse,' gave not only a description, but also an engraving of the hairless brute, and gravely added his reasons for concluding that it was a native of the little-known tropical regions of Africa. For four years this animal had been the lion, wonder and pride of the Berlin College; when one day a country farrier, named Sebald, from Ulm, in Suabia, visiting the college, immediately recognized it as an old acquaintance. He knew it, he said, when a foal,—when it had as good a coat of hair on it as any other horse; he could even tell what caused its hair to fall off, but, as may be supposed, he was most unmercifully pooh-poohed by the *savans* of Berlin. They did more: they proclaimed the country farrier's utter ignorance of horseflesh, and even demeaned themselves by ridiculing the rude *patois* of the Suabian. Sebald's *amour propre* was hurt in the tenderest part: he well knew that he was right, and he determined to trace the history of the animal to its minutest point. He did so, and incontestibly proved that the horse was no other than a common German hackney. I need not follow Sebald's history of the animal from a colt; suffice to say that it had belonged to a coach proprietor in Franconia, and then was in no respect different from any other horse of its kind, except that it was taken with the strangles. The coach proprietor then sold it to a neighbouring peasant, who, according to the custom of the country, gave the horse leaves of the savin-tree (*Juniperus Sabina*) as a cure for the disease. The savin apparently cured the horse, but the peasant, to prevent a relapse, gave it more or less of those leaves for a whole year. In the meantime the horse began to have a nice, sleek coat of hair, which, however, soon dropped off, leaving the animal almost naked: another coat ensued, and this also soon dropped off. Nature, however, made a last effort: the hair grew for a third time, but once more dropped off entirely, and never attempted to grow again. The peasant continued to work the animal, but was so annoyed by the neighbours laughing at his naked horse that he took it back to the coach proprietor, and begged that he would take it off his hands on any terms. The coach proprietor did so, and, taking it to another part of the country, exhibited it as a Cyprus-horse; but, dreading a very salutary German law which places what we may term the high art of the noble science of showmanship in the same category as swindling, he sold the animal to an Italian exhibitor, who took it to France. The Italian, in turn, sold it to Alpy, who brought it back to Germany, where it became famous as the Nile-horse.—*William Pinkerton.*

Occurrence of Hyperöodon rostratus at Weston-super-Mare. — I am induced to send the measurements of the Hyperöodon lately shot at Weston-super-Mare, on account of the interest attached to this little-known group, and also because to a good figure and description in the 'Illustrated London News' for November 17 is appended the wrong name. The Weston specimen was 26 feet long, from posterior origin of dorsal to insertion of tail 6 feet, from ditto to snout 18 feet. Dorsal fin 1 foot 11 inches long, 1 foot 5 inches high. Tail 1 foot in diameter, 2 feet in depth. Vertical height of forehead from gape 1 foot 8 inches, ditto from upper jaw (insertion) 10 inches. Cloaca to insertion of tail 5 feet 3 inches. Pectorals 2 feet 5 inches in length, 9 inches in breadth; distance between pectorals beneath 1 foot 8 inches. Height of body at anterior base of dorsal 4 feet, at insertion of tail 1 foot 4 inches, circumference at base of pectorals 11 feet 6 inches, at blow-hole 9 feet 6 inches, at anterior insertion of dorsal 10 feet, from gape to muzzle 2 feet, from gape to eye 2 feet, from eye to spiracle 2 feet. Spiracle 5½ feet from cusp to cusp, but it is doubtful (an anchor having been placed in it) whether the cusps were forward or backward; I think the former. The species is, no doubt, Hyperöodon rostratus, and the figure in Bell's 'Quadrupeds' called H. Butzkopf is very like it. I have not yet been able to examine the mouth for teeth, but it is probable that two exist in the lower jaw. What cause should have impelled these northern animals to visit our shores, first at Whitstable and then at Weston, is quite conjectural. In 1841 a whale of this species was killed near Bristol, and is there preserved, at least the skeleton; and now, after a lapse of twenty years, two more are observed to wander up the same channel. — *W. D. Crotch; Uphill House, Weston-super-Mare, November* 18, 1860.

Capture of a Whale in Loch Sunart. — The following account of the capture of a whale, which I have just received from my Highland home, Strontian, on Loch

Sunart, Argyleshire, may interest some of your readers: — "Yesterday a few people had an exciting adventure with a whale, which was noticed by Angus Graham, in the forenoon, swimming about at the head of the loch (Sunart). Beaton, and his brother of the smack 'Phœnix,' were along with him. They got two harpoons made out of rod iron, with a ring at one end, to which they attached ropes; and two boats, with Hamilton the smith and a few others, set off in pursuit. When they came up with the whale Beaton, who is a daring fellow, struck at it with one of the harpoons; after three attempts he succeeded in fixing it about two feet above the tail, and it held fast. Away went the whale, dragging the two boats after it, at steamboat speed. It crossed and recrossed the loch (nearly a mile broad), grounding and getting off again. At one time it went below Hamilton's boat, and gave it a lift that nearly upset it; at another time it went close past the boat, and broke an oar that Graham put down to keep it off. After a three-hours' chase the whale grounded at the head of the loch, having become exhausted; and your keeper Munro fired, and put a ball through the head. The whale was thus secured, and when dead was towed to the beach at the Greenfield, where young and old have been to see it. It is twenty-four feet long, and is, I presume, of the bottle-nose variety. It is thought to be a female. The blubber will be run into oil, and divided among those men who were engaged in the capture. They owe their success chiefly to the daring of Beaton, who is master of a smack belonging to Mull."— *Thomas M. Riddell, in the 'Field'; Perth, November* 27, 1860.

Occurrence of the Spotted Eagle (Falco nævius) *in Cornwall.*—The capture of this rare eagle took place on the 4th instant, in the eastern part of Cornwall, at a large covert called Hawk's Wood, the property of Francis Rodd, Esq., of Trebartha Hall, adjoining the large moors between Hawk's Tor and Kilmar, and not very far distant from the well-known Cheesering. Hawk's Tor and Kilmar Tor rank amongst the highest hills in Cornwall, reaching an altitude of from 1000 to 1200 feet: the character of these hills and the moors about them in every direction is exactly similar to those on Dartmoor; in fact, the range is a continuation of the great granite tract, extending, with some few interruptions, to the Land's End. The capture of this bird deserves a notice: it was observed first in a tree, and on the approach of the shooting party, instead of soaring, the bird shuffled down the tree and scrambled under some rocks; the condition of the bird was beyond the average of birds of prey, large masses of fat encircling the gizzard, which on dissection was entirely empty; one of the wing-bones was broken, but whether with shot or otherwise I cannot exactly determine; the body, wings and every part of the bird exhibited the most perfect form, but probably some injury at the time prevented the bird from taking flight. The bird was sent to me in the flesh, and I had therefore a good opportunity of taking several particulars, which I will now proceed to give.

Weight, 4 lbs. 1 oz.	Feet.	Inches.
Extreme length	2	3
From carpal joint to the end of the longest quill-feather (5th)	1	8
Extreme width	5	5
Length of tail	0	10

Cere bright yellow; eyes large, deep hazel; beak, at the base, blue horn, the centre and tip almost black; top of the head, throat, front breast and back liver-brown; the feathers on the occiput neck in front and behind detached, ciliated and loose, with paler points. Quill-feathers abruptly narrowed by indentations of *both* webs towards their ends, which are black; inner webs towards their base, in the widest part pale brown. Secondaries brown, broadly tipped with buff-yellow, forming a conspicuous bar. Greater and lesser wing-coverts ending in distinct oval elliptic spots, gradually diminishing in size over and to the ridge of the shoulders, and appearing at the extreme margin like small drop-shaped streaks, but distinct and separate. Tail deep brown, tip much worn, but paler; upper tail-coverts broadly edged with dull yellow; the colour of the feathers next to the tail almost white. From the breast downwards to the vent a mixture of dirty yellow and brown, the centre of the feathers being yellow, with the edges all round brown; the feathers on the vent buff-yellow. Thigh-feathers buff-yellow, the upper portion striped longitudinally with dark brown, terminating in uniform dull yellow. Tarsi feathered to the feet, which are bright yellow; claws dark brown, almost black; the toes ending in four well-defined plated scales, similar in form to those of the golden eagle.

Sex, male. In the first year's plumage.

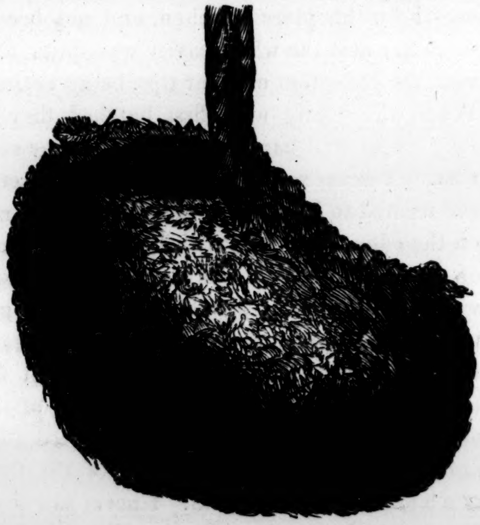
On dissection it appeared that an injury to the elbow of the wing prevented the bird from taking flight. Mr. Vingoe informs me that the flesh in this portion of the wing was like jelly, and there can be no doubt that the bird had met with a recent blow in that part; the high condition of the bird is evidence that it could not have been of long standing, but the remarkable collapsed appearance of the gizzard, without a particle of food, shows that the bird had taken no prey for a day or two. —*Edward Hearle Rodd; Penzance, December* 15, 1860.

Rare Birds occurring at Weston-super-Mare.—The following uncommon birds have, within the last few years, been obtained at Weston-super-Mare, and for the most part are in the possession of Mr. Stone, a local collector: — Richardson's skua, Fulmar petrel, Iceland gull, glaucous gull, ivory gull, little gull, black tern, gray phalarope, hoopoe, quail, Bohemian waxwing, cirl buntings. — *Edmund T. Higgins; Bristol, December*, 1860.

Occurrence of the Gyrfalcon (Falco islandicus) *near York.* — I have now in my house a very fine specimen of the gyrfalcon, shot at a place called Upper Poppleton, a few miles from here. It was brought to my house a few hours after it was shot, and purchased by my wife for 5*s*. It is a young female, and I should suppose a last year's bird.—*David Graham; Market Street, York, November* 20, 1860.

The Tree Sparrow. — We have a visit of this finch under peculiar circumstances. It very sparingly occurs in Cornwall, and for a long time one instance only of its occurrence was recorded. A Norwegian brig put into this port yesterday, and amongst other articles of cargo six of the above birds were handed from the ship to a person at the quay, and they were brought to me for inspection. When the ship was mid-way between the two coasts, between the Dog-a-Bank and the Galloper Light, thousands of these little sparrows fell on board, and the master kept half a dozen merely out of curiosity. He describes the quantity of birds as an immense flock, the evidence of which appears to be conclusive from the extent of the droppings which attracted the notice of the person who made inquiries about the birds, and obtained the half-dozen brought for my inspection.—*Edward Hearle Rodd; Penzance, November* 9, 1860.

Habits and Nest of the Pichincha Humming Bird.—The Pichincha humming bird, like the Chimborazo, is found only close under the line of perpetual snow; but this species, according to the present state of our knowledge, is more widely distributed than the latter, being found not only on Pichincha, but also on Antisana and Cotopaxi. Upon my first visit to Guagua Pichincha these birds were feeding entirely on the ground, hunting the little moss-covered clumps as fast as the snow melted. They are not uncommon in this locality, but always met with singly. They are very restless, but not shy, seldom remaining on one clump more than a second, then away to another, perhaps a yard distant. Sometimes they would take a rapid flight of forty or fifty yards. On my second visit, the Chuquiragua being in flower, they were feeding from it like the Quindi of Chimborazo, but still occasionally hunted the mossy clumps. They flit with a burr of the wings, and occasionally settle, with the feathers all ruffled, on the top of the Chuquiragua or other small plant. In this respect, so far as my observations and those of Professor Jameson go, they differ from O. Chimborazo, Professor Jameson found this species building hanging nests in the lower compartment of the farm-house on Antisana." Mr. Fraser has sent home one of these nests as found by Professor Jameson on the 2nd of November, 1858. It was attached to a rope hanging to the roof of the house, which is situated at an elevation of 13,454 feet above the sea-level. It forms a large compact mass of wool and hair, mixed with dried moss and feathers, of the curious shape portrayed in the accompanying woodcut. A little cup-shaped opening at the top forms a receptacle for the eggs, and is balanced and brought into a horizontal position by the weight of the mass on the opposite side of the rope by which it is suspended. Mr. Fraser again says, speaking of two specimens obtained on Guagua Pichincha in June:—"From the mouth of one of these two birds a quantity of very pale yellow fluid, of a slightly sweet taste, flowed; but I did not find any in either crop or gizzard. Amongst some of those, of the same species, which I skinned the other day, I observed the same thing. If my memory serves me correctly it has occurred twice before in other species. I observed three specimens of this bird, all of a row, hanging to the bare rock (this now explains the use of those large feet and claws which the species of this group have, and which has hitherto puzzled me), like sand martins; it was under a ledge well protected from the weather, consequently well adapted by Nature for nest-building. They would fly away and then return; this was done in my sight three or four times in succession. On examining the spot, which was almost inaccessible, I found much excrement, proving to my mind that they bred in societies. My countryman, Col. Stacey, on a visit to this mountain, happened to have on a new bright yellow oil-skin cover to his wide-awake hat, and one of t[illegible] birds flew round and round it for a considerable time,—as he supposes, mistaking it for a flower."—'*Birds collected by Mr. Fraser in*



the Vicinity of Quito;' by Philip Lutley Sclater, M.A. — From the 'Proceedings of the Zoological Society of London,' 1860, p. 80.

Note on the Nest of a Humming-bird (Thaumastura henicura) *in Guatemala.* — The third nest had young. It was placed in the upper shoots of a dahlia which grew at the farther end of the court-yard of the house. The hen bird seemed to have the entire duty of rearing the young, as I never once saw the male near the place; in fact, I never saw a male Thaumastura henicura inside the court-yard at all. When the hen was sitting she would sometimes allow me to go quite close to her, and even hold the branch still when it was swayed to and fro by the wind, without evincing the slightest alarm. But it was only when a hot sun was shining that she would allow me to do this; when it was dull or raining, four or five yards was the nearest I could approach. Frequently, when I had disturbed her, I would sit down close at hand and wait for her return; and I always noticed that, after flying past once or twice overhead, she would bring a small piece of lichen, which, after she had settled herself comfortably in her nest, she would attach to the outside. All this was done with such a confident and fearless air that she seemed to intimate, "I left my nest purely to search for this piece of lichen, and not because I was afraid of you." When sitting upon her nest the whole cavity was quite filled by her puffed-out feathers, the wings, with the exception of their tips, being entirely concealed by the feathers of the back. When the young were first hatched they looked little, black, shapeless things, with long necks and hardly any beak. They soon, however, grew, and entirely filled the nest. I never saw the old bird sitting after the young had emerged from the eggs; she seemed to leave them alike in sun and rain. When feeding them she would stand on the edge of the nest with her body very upright. The first of these young ones flew on October 15th. It was standing on the side of the nest as I happened to approach, when it immediately flew off, but fell among the flowers below. I placed it again in the nest, but a moment after it was off again, nothing daunted by its first failure,— this second time with better success, for it flew over a wall close by, and settled on a tree on the other side. In the evening of the same day I saw the old one feeding it, and went up to the tree; but it started off with increased vigour to an orange tree, and tried at first to rest on one of the fruit, but, failing, found a more appropriate perch on the edge of a leaf. I never saw it afterwards. The other young one flew on October 17th, two days later. The proportion of males to females of my Duenas skins is as five to three, while of those from Coban as three to five. The seeds of the willow and bulrush are favourite materials for the interior structure of the nest of T. henicura, while lichen is freely used outside.—*Osbert Salvin, in the 'Ibis,'* ii. 266.

Note on a Humming-bird (Cyanomyia cyanocephala) *of Guatemala.* — This last week another pair have been building somewhere near the house, and the male bird frequently comes while I am preparing skins in the corridor, and takes pieces of cotton almost from under my hand. Yesterday afternoon (August 14) Mr. Wyld caught it making a descent upon some small object in his room. He shut the window and called me. The intruder, who was wearied from fluttering against the window, suffered itself to be caught. In a very few moments its agitation ceased, and it seemed to be taking advantage of its comfortable place in my hand to rest from its fatigues, making no attempt to escape. Before letting it go I procured a piece of sugar, and dipping it in water put it to the tip of its bill. Almost immediately its long tongue was employed in sucking up the liquid. On liberating it, it flew to a tree close at hand, and seemed to take no further notice of its late captivity. If its nest is not finished I have no doubt I shall soon see it again seeking the wool. The wind produced by the wings of these little birds is considerable, as I noticed that while hovering over a large piece of wool the whole surface of the wool was violently agitated. This same bird makes daily visits to the vases of flowers placed in the rooms.—*Osbert Salvin, in the 'Ibis,'* ii. 39.

Occurrence of the Firecrested Regulus (Regulus ignicapillus) *near Penzance.*—A male specimen of this Regulus, in fine plumage, was brought to me this week, obtained from the parish of Gulval, about a mile from Penzance. I think this species can no longer be considered rare in this neighbourhood.—*Edward Hearle Rodd; December* 13, 1860.

Late Stay of Swallows.—November 29: Saw a martin; it continued hawking for some time round the house, frequently passing within a few yards of me as it darted after the flies. I had observed one on the 24th, and my son informs me that he saw several swallows on the 1st of December. The weather had been very wet and unseasonably mild. Swallows having been occasionally noticed by myself and others in this neighbourhood during the month of December, it might readily be imagined that in a mild winter some few at least would remain with us throughout the year; but I have already recorded my opinion that this is not the case, never having observed or even heard of one from the middle of December till the middle of April,—a pretty good proof that these laggards must either wing their way to warmer climes or perish for want of food, as I cannot bring myself to believe that they would greatly suffer during a mild winter, such as is occasionally experienced here.—*H. Hadfield; Ventnor, Isle of Wight, December* 3, 1860.

Occurrence of the Little Bustard (Otis tetrax) *in Norfolk.*—A fine specimen of this rare visitant to our coast was killed on the 29th of November, at Norton, near Reedham. It proved to be a female, and, as usual with birds of this species when obtained in this country, was shot in a turnip field, its stomach being filled with a mass of green food.—*H. Stevenson; Norwich, December* 12, 1860.

Occurrence of the Night Heron (Nycticorax ardeola) *in Norfolk.*—An immature specimen of this rare species was shot about the 8th of this month, in the Caister marshes, near Yarmouth. I had the opportunity of seeing it in the flesh, and found it to be a young bird of the year, resembling the second figure in Yarrell's illustration, having the usual spotted appearance about the wings and scapulars, caused by a triangular white patch, of more or less extent, at the tip of each feather. The feathers of the head and neck are also streaked with brown and white, each feather broadly edged with brown, the quill and centre of the web being white throughout. Unfortunately, when subsequently preserved, the sex was omitted to be noted. Several of these birds have been killed in Norfolk from time to time, in both adult and immature plumage, but not of late years.—*Id.*

Large Flight of Woodcocks at the Lizard, Land's End and Scilly Districts.—We have not had such a flight of woodcocks for years as at this season. On Saturday week the Scilly steam-boat brought thirty birds, twenty-five of which were killed at Trescoe Island; the remainder were killed at the largest island of St. Mary. I have little doubt that if this island had been beaten well fifty would have been sent in addition. Yesterday, at Helston, the market town of the Lizard, the price was 2*s.* per brace; here the last market price yesterday was 2*s.* 6*d.*—*Edward Hearle Rodd; Penzance, November* 9, 1860.

Ostriches Breeding in Italy. — The most remarkable family in the world are now living at San Donato, near Florence, where Prince Demidoff has made admirable arrangements for entertaining them hospitably. A part of his magnificent estate has been fitted up exclusively for them. From far and near natives and foreigners come to visit them in the division of the Etablissement Zoologique appropriated to them. Mons. Des Murs is so much occupied with them that he has scarcely time to pay proper attention to two other "strang birds," the white camels, belonging to the Prince. Up to the present time the flow of visitors remains undiminished; all are desirous of paying their respects to the family of Italian ostriches. When the Parisian Acclimatisation Society succeeded in inducing a pair of ostriches to rear their young in the North of Africa, they celebrated the event with festivities; and Marshal Vaillant deemed this triumph of science of sufficient importance to warrant his forwarding minute details to the home government. The idea of introducing ostriches into Europe had not then been dreamt of. When came the authentic report that two of these gigantic birds had crept out of their shells on the banks of the Arno, the above-named Society presented their gold medal to the Etablissement Zoologique of San Donato, which Prince Demidoff liberally made over to the deserving Director. During the whole time of laying and hatching the long-legged parents conducted themselves in such a savage and hostile manner that no one ventured near their nest. A year, wisely and judiciously made use of, has rendered them so familiar and tame that, during the crisis which is just now passed, they conducted themselves with propriety, one may almost say reasonably. It was possible to approach the nest with the same serenity as one feels in going to the nest of a house swallow. With this fact before us the doubt about domesticating the ostrich falls to the ground; the giant birds belong no more solely to the menagerie; they have become European. The female began to lay on the 11th of May: with remarkable regularity she laid an egg on each alternate day. When three were laid she began to sit, during which time the number of eggs increased to thirteen. Sitting did not seem to suit the taste of the mother; she held out but a very short time. Upon her leaving the eggs the stumpy-beaked father took her place; he has, during the whole period of incubation, shown much greater zeal than the mother, who, as a rule, sat only five out of the twenty-four hours daily. The first chick appeared on the 23rd of June (the sex of the birds is undistinguishable until they come to maturity). Shortly after four more feathered Florentines appeared, when the old father lost all patience, and left the other eight eggs (each of 3 lbs. weight) to their fate. — *C. B., Wiesbaden; in the 'Field.'*

Capture of the Rednecked Phalarope (Phalaropus hyperboreus) *in Norfolk.*—A bird of the year of this pretty and elegant little species was shot on Thursday, the 28th of November, 1860, in Laken-heath Fen, Norfolk, from which place it was brought to Ely market, thence to Cambridge, by a dealer in game, of whom it was purchased by its fortunate possessor, J. Hamilton, Esq., of Trinity College, Cambridge, to which gentleman I am indebted for the sight of it, and the courtesy of allowing me to send this for insertion in the 'Zoologist.' This bird can be considered no other than of rare occurrence in the British Isles. In a letter to me a short time since, from J. H. Dunn, the able and well-known naturalist of the Orkneys, speaking of the rednecked phalarope, he says, "I much regret to say the species is now no more to be found in these (Orkney) Islands." This intelligence I learn with much regret as an ornithologist, and doubt not it will be so with all British naturalists who chance to peruse this note. The phalarope is a bird to be numbered with the bustard, a bird of yore; it shuns alike the close relationship of man and the tiller's plough. — *S. P. Saville; Dover House, Union Road, Cambridge* (*late Jesus Terrace*), *December* 14, 1860.

Occurrence of the Longtailed Duck (Anas glacialis) *near Tregothnan, Cornwall.* — A fine, well-conditioned specimen of this rare duck (in these parts) was sent yesterday for preservation. The early appearance of this arctic duck seems to forebode hard weather in the North. I have never known but one other specimen of this duck before in this neighbourhood, and that was in nearly the same state of plumage as the present, without the long tail-feathers, the upper parts more or less umber-brown, with a similar patch on each side of the neck.— *Edward Hearle Rodd; Penzance, November* 10, 1860.

The Little Gull (Larus minutus) *shot at Eastbourne, Sussex.* — On Thursday, the 6th of December, 1860, a fisherman residing here shot a pretty specimen of this gull, which I saw in the flesh and examined. Unfortunately it did not come into my possession. It weighed nearly four ounces, measured 11½ inches, and from tip to tip of extended wings nearly 26 inches. — *John Dutton; South Street, Eastbourne, December* 17, 1860.

Breeding of a Penguin called the Rock-hopper (Aptenodytes chrysocome) *in the Falkland Islands.* — Tho Falkland Islands' rock-hopper (so called from its jumping from rock to rock) comes up from the sea about the middle of October, and lays the first week in November. Like the other penguins, they return to the same breeding-grounds. These are situated on high cliffy slopes near the sea, and with a fresh-water stream running near, in which the birds constantly wash themselves. They are also, like the gentoos, continually going to and returning from the salt water. The space occupied by some of the breeding-places is nearly 500 yards long by about 50 broad, and their eggs lie so close together that it is almost impossible to walk through without breaking some of them. I have often wondered, on disturbing these birds and driving them away from their eggs, how, on their return, they would pick out their own among so many hundreds. Yet this they do, walking back straight to their eggs, and getting them between their legs with the utmost care, fixing them in the bare space between the feathers in the centre of the lower part of their belly, and gradually lowering themselves till their breasts touch the ground, the male bird of each pair standing upright alongside of the female.—'*Ibis*,' ii. 337.

Rare Fishes occurring at Weston-super-Mare. — Amongst a host of other small fry the following fish have been obtained by me since the end of June, from the shrimp and other nets, at Weston-super-Mare, in the Bristol Channel:—

White Goby (*Gobius albus*). One specimen. Two other gobies, differing from those figured in Yarrell's 'History of British Fishes,' one probably Gobius auratus.

Argentine (*Scopelus Humboldtii*). Seven specimens.

Clupea macrocephala, *Swainson*. One specimen.

Long Flounder (*Platessa elongata*). Two specimens.

Anglesea Morris (*Leptocephalus Morrisii*). Four specimens.

——— ? (*Leptocephalus ?* ——— ?). One specimen. This differs in so many respects from the Anglesea Morris that further examination will, I think, prove it to be a distinct species.

Lampern (*Petromyzon fluvialis*). One specimen. Included in this list because not generally supposed to visit, at any season, the salt water. — *Edward T. Higgins; 101, Kingsdown Parade, Bristol, November* 27, 1860.

The new British Physa. — The announcement (Zool. 7278) of a Physa new to the British fauna will be received with interest by many readers of the 'Zoologist.' But they will probably agree with me that certain points in Mr. Choules's statement demand further elucidation before the species can fairly take rank as a Briton. From the days of Turton and Montagu the fresh-water Mollusca have received so much attention, and the species, with one or two exceptions, are so well known and generally distributed, that the fact of one having been overlooked might be regarded as well nigh impossible. I am not aware that any addition has been made to them since Dr. Harvey found Amphipeplea involuta; or Mr. Bean, Pisidium cinereum. Moreover, when we consider the number of West-Indian species which have been enumerated as British, and then rejected on irrefragable evidence, we cannot but fear that Mr. Choules's Physa may share their fate. After all, there appears to be a degree of uncertainty as to the species he has found. According to Forbes and Hanley, vol. iv. pp. 143, 144, the Physa rivalis of Maton and the Physa acuta of D'Orbigny and Draparnaud are distinct, the former being West Indian and the latter European. Both have already been described as British, and rejected as spurious. To which of them are we to refer Mr. Choules's mollusk? Again, the habitat in Kew Gardens must be regarded with suspicion. It is true that the extreme delicacy of the Physa would render it unlikely that it has been introduced with water-plants from a foreign country; still it is *possible* that such might be the case, and in our ignorance of the locality where Mr. Choules at first collected his specimens we are at liberty to conjecture that they may have originally found their way to *both* stations from accidental causes. Would it not be desirable to entrust the secret of their whereabouts to one or other of our eminent conchologists? If Mr. Jeffreys, or Mr. Norman, or Mr. Woodward, were to investigate the spot, and declare the shell to be British, it would be universally accepted as such, and prove a highly interesting addition to our fauna. I think we might venture to promise Mr. Choules that none of these gentlemen would extirpate the race. Once more: will not some readers of the 'Zoologist' apprehend that this shell may, after all, prove an extreme form of our Physa fontinalis? I am unacquainted with either of the foreign species in question, but can verify the observation of Forbes and Hanley, vol. iv. p. 142, that British varieties of Physa fontinalis "differ as much from the typical form as many of the supposed species of Physæ do from each other." It appears also that a confined area, like the tank in Kew Gardens, has a tendency to affect the growth of these shells, and in particular to develop their spire to an unusual extent. Far be it from me to throw discredit on Mr. Choules's discovery. Having myself paid some attention to our fresh-water Mollusca, I am ready to admit that they possess a mysterious faculty of finding their way to unlikely habitations. Every naturalist can cite examples of Dreissena polymorpha turning up profusely in waters where it had hitherto been unknown, and whither its progress could not be traced. I have myself collected a dozen species of shells in a pond at North Stainley, near Ripon, which is at least half a mile from any other water. Two of these species, Lymneus stagnalis and Cyclas caliculata, do not, to the best of my belief, occur elsewhere in the neighbourhood. Lymneus glaber, a rather rare shell, is plentiful in one or two small horse-ponds at Ingleby Greenhow, but except in these I never found a single specimen, though I tried every pond and ditch in the surrounding neighbourhood. Under these circumstances it would be unwise to doubt the fact of Mr. Choules having discovered Physa rivalis, though we may reasonably wish to have one or two points in its history cleared up before acknowledging it as one of our truly indigenous Mollusca.—*James Dalton; Church Broughton, Derby.*

Curious Annelids at Ashburton. — Being at Dartmoor, with my son, last July, we made Ashburton the centre of our explorations. Among many other matters of interest a curious phenomenon occurred just at the entrance of the town. A quarter of a mile or so from the houses there is a shallow horse-pond, the bottom of which consists of an impalpable mud, much indented with hoof-holes and other irregularities. In these, the water being dimly clear from settlement, we observed what looked exactly like blood, in numerous patches, the appearance being as if two or three drops of blood had fallen in one spot, half a dozen in another, and so on. The colour was true; and even when we alighted, and looked carefully on the spots, they had just that curdled appearance that drops of blood assume when they fall into still water. But there appeared on minute examination a constant intestine motion in each spot, which caused me to bring my eye closer, when I discovered that I had been egregiously deceived. Each apparent drop of blood was formed of a number of slender worms—about as thick as a hog's bristle, and an inch and a half long—of a red hue, which protruded the greater part of their length from the mud, in a radiating form, each maintaining a constant undulatory movement. There were more or fewer centres of radiation, the circles frequently interrupted by and merging into others, just as drops of blood crowded together would do. On the slightest disturbance the little actors shrank out of sight into the soft mud; but by scooping up a little of this I contrived to get a number of them into a phial, which, as the sediment settled, were seen at the bottom, playing as if in their pond. On examination of specimens with a microscope I found them to be minute annelids, such as I have described, apparently of the genus Lumbriculus of Grube, with two rows of bristle-pencils and two bristles in a pencil. The body was transparent and colourless, and the red hue was given by the great and conspicuous longitudinal blood-vessels, and by the lateral connecting vessels, which viewed sidewise took the form of loops. The animals soon died in captivity, but I kept some for three or four days.—*P. H. Gosse; Sandhurst, Torquay.*

Notes on certain Crustacea observed Abroad.

By ARTHUR ADAMS, Esq., F.L.S.

On the Habits of Eriocheir japonicus. — If we do not illustrate the habits of our crab, I am determined the crab shall throw some light upon our proceedings. Eriocheir, defunct and desiccated, shall transport us in imagination to scenes that will linger long in the memory.

On the banks of the Yang-tsze-kiang are tracts of low swampy land haunted by curlews, snipe and plover, where water-buffaloes, attended by groups of noisy Mima-birds, alternately ruminate and wallow in the mire, and which are irreclaimable even by the patient industry of the Chinese husbandman. Scattered over these swampy plains are certain sedgy pools. The bottom is soft mud, and the water, though it looks black, is very clear. The reed, the Iris and the bullrush grow in the water, and fringe the peaty margin. Over their emerald swords and spears often hangs the little bluebacked kingfisher, and up to his knees in water stands watchfully the snow-white padi-bird. *Certes*, there there are fish in these said ponds, and the waters are peopled with noisy frogs. Some portions of the adjoining ground are pierced like a cullender, and the holes are the work of the crab with a bloody hand (*Pachysoma hœmatocheir* of De Haan), but as yet there is no trace of he of the hairy hand.

As in England boys take possession of ponds, moorlands and commons, and disport themselves therein, robbing the humble-bee, stoning frogs and troubling the mind of the gamekeeper, so do the urchins of the Flowery Land resort to these oozy pools for profit and recreation. With an artfully-fashioned wicker-basket, narrow at the top and sloping at the sides, the pig-tailed boy advances cautiously into the yielding mud, probes with his toes the overhanging banks, or plunges both his arms beneath the spongy roots. Anon a "something" is adroitly transferred to the basket hung about his neck, which "something" on examination turns out Eriocheir japonicus. He is a crab dark olive and freckled, flat-backed and apathetic, by no means nimble on his pins, nor aggressive with his hirsute claws. Placed on the ground, he shambles along sideways towards the water, never moving in an inland direction, and, when possible, speedily makes himself invisible beneath the soft, black mud. He is rightly placed between Trichopus and Utica, and belongs to the fresh-water members of the Grapsus family. Strolling through the unsavoury purlieus of the village of Woosung, I notice in all the fish-shops long strings of these crabs, which, from their abundance in the market, seem to be admired articles of diet among the poorer Chinese. For half a mace I purchase two strings, each of nine full-grown Eriocheirs.

When I again make the acquaintance of our hairy-handed friend I am in that paradise-island, Tsu-Sima. We watered ship in the bight of one of the numerous deep inlets which everywhere indent the outline of the island. From the summit of the Oo-i-yama, the loftiest mountain, runs a tortuous stream; now deep, winding and narrow; now wider, and leaping over great flat stones, forming little waterfalls; and finally spreading out into a shallow, stony watercourse, as it rushes down to meet the waters of the bay. Here are tempting pools with trout for the angler, and stony ledges crowded with Neritinæ; while under the loose, flat stones, half-buried in the sandy mud, lurks Eriocheir japonicus.

Again we meet in Manchuria, and the manner of our meeting is in this wise. We join a "pic-nic" to the Lake. There is Wilford of the "seven-league boots," vasculum on back, intent on plants; there is Buckley, fishing-rod in hand, eager for salmon; Sutherland, thoughtful, caring for beetles; and the Doctor, renewing his youth in the fellowship of that gay band. At length, fatigued with our several exertions, for even pleasure sometimes becomes a toil, we lie supine upon the sand, under the shade of the hazels that fringe the margin of the Lake. One prepares the soothing pipe; another, prone over the water, takes huge horse-like draughts of the limpid element; and as sailors ashore must always light a fire, the others collect little sticks for the inside and larger boughs for the outside. A spark is produced in a bunch of dried grass, which is waved in the air till a blaze is created, and the fire is then kindled.

A fire with nothing to cook is bad, so we cast about for something to eat. There are no birds to shoot, although there is a fowling-piece; the fishes will not allow themselves to be caught, and for beetles we have no appetite. But crabs there are for the seeking. So bare-legged we wade, and in the shallows of the fresh-water Lake we capture these desirable Crustaceans, which are no other than Eriocheir japonicus. No sooner is a specimen taken than he is cast upon the glowing embers. Biscuit we have, and wild onions grow in the sand around; but "the salt" of course is forgotten. No boatswain's pipe assails our ears, no "bear a hand" is heard. The noise and bustle of the ship is clean forgotten in the calm of nature. Solemn silence reigns upon the Lake; solemn silence reigns in the great oak woods. Serene and undisturbed, in that wild spot we thankfully cook our crabs, and enjoy our frugal meal.

On the rapid Growth of Cirripedes.—The following short note will tend to illustrate the rapid growth of the pedunculated Cirripedes. In 1857 the 'Actæon' sailed from Rio de Janeiro, towing the 'Dove,' her little steam tender, by two 9-inch hemp hawsers. On the 31st of March we both arrived at the Cape of Good Hope, having been six weeks on the voyage. On our arrival at the Cape the hawsers, which were quite new on starting, were hauled inboard, when they were found covered with barnacles along their whole length. These were nearly all full-grown, and, with the exception of one small white Balanus, were all pedunculated, belonging to the genera Lepas, Scalpellum and Otion. So numerous were they that even when the hawsers were comparatively freed from them they became so offensive, from decaying animal matter, as to require to be washed with Sir W. Burnett's solution, and kept on deck a considerable time before they could be reeled up below.

ARTHUR ADAMS.

Cossus ligniperda in Scotland. — I am so far behind in my knowledge of Scottish Lepidoptera as to be ignorant whether or not the goat-moth has been recorded as a native of Scotland. When in the district of Strath Summet, last September, I lighted upon a well-grown larva of this insect under the bark of a larch log. No perforations of the wood were to be seen, the creature having fed apparently on the inner bark. When observed it had constructed a kind of form, as if intending it for winter quarters. Two or three days afterwards a second larva was picked up crawling upon a wall about a mile and a half distant from the locality of the first specimen. One of them, I see, is still alive; the other is at present out of sight.—*Robert Hislop; Blairlodge, Falkirk, November* 24, 1860.

Description of the Larva of Epione vespertaria.—The egg is hatched in May. The larva is very lively: when disturbed it falls in the net and feigns death. Varies much in colour when young. When full fed the head is larger than the 2nd segment. Body elongate and twig-like. Colour of the head dark brown; of the body pale reddish brown, with four fine white dorsal lines to the 6th segment; the 6th segment much enlarged, and having a large pale dorsal blotch, with dusky centre, two black dorsal spots and one large lateral black spot, in the centre of which there is a white ring with black centre; upon all the segments, from the 7th to the 13th inclusive, there is a series of lemon-coloured diamond-shaped blotches with dusky centres, and becoming less distinct as they approach the 13th segment; a subdorsal black and white spot on each segment from the 5th to the 13th inclusive; a pale pinkish lateral stripe and a distinct lateral spot on the 11th, 12th and 13th segments. Feeds on Salix phylacifolia (dwarf willow), and is full fed about the first week in July, when it changes to a very lively pupa among the leaves of its food-plant.—*W. Prest; 7, Castlegate, York.*

Another Description of the Larva of Epione vespertaria.—The larvæ mentioned in the 'Intelligencer' (vol. viii. p. 82) produced, as I anticipated, Epione vespertaria. The first (male) imago emerged on the 15th of August, and a succession of males and females (the latter, though rarely captured at large, preponderating) continued to appear until the beginning of September,—about a month later than the period of their appearance at large last year. Very few have this year been taken, though their usual haunt was industriously searched. "With no protuberances" is scarcely correct as to this larva; there is an enlargement of the 5th or 6th segment, the segments anterior to which are of less diameter than those posterior to the enlargement. This gives the larva somewhat the appearance of having a long neck; the enlargement is rendered more prominent by having on it two conspicuous black spots, one on each side. In colour the larvæ vary somewhat when full grown, some being nearly black, whilst others are of a purplish gray, beautifully marbled or mottled at the sides, a paler chain-like mark running along the back. When disturbed the larva drops suddenly, and lies motionless, as though dead, coiled up somewhat in the shape of a fish-hook. The plant upon which the larvæ were found and fed up it would have been more accurate to have called dwarf willow than dwarf sallow; I am not sure, though I believe it is called Salix phylicæfolia (tea-leaved willow).—*J. Birks; York, October* 8, 1860.

[I have cited the second description from the 'Intelligencer,' because there is a slight discrepancy between the two.—*Edward Newman.*]

Description of the Larva of Eupithecia pumilata: Green Variety.—Ground-colour yellowish green, almost primrose-yellow. Central dorsal line olive, intersecting and uniting a series of pear-shaped spots of the same colour, the latter becoming merged in the central line on the anterior and posterior segments. Subdorsal lines olive, two on each side. Belly pale dirty green, with dusky edges. The spots and lines vary much in intensity of colouring, and are sometimes almost entirely wanting, leaving the larva a uniform pale yellowish green. Feeds on Clematis Vitalba, &c.—*H. Harpur Crewe; Drayton-Beauchamp Rectory, November* 29, 1860.

Description of the Larva of Camptogramma bilineata.—Yellowish green. Central dorsal line dark green, becoming faint on the anterior segments. Subdorsal lines yellowish white, faint. Segmental divisions yellow. Spiracular line yellowish white, waved. Back suffused with white, studded with small white tubercles and short hairs. Belly deeper green than back, traversed longitudinally by numerous slender yellow lines, and occasionally spotted on each segment with two large dusky purple spots. When young the ground-colour is sometimes reddish drab. Hybernates small, and begins to feed at the beginning of March, on dock, chickweed, &c. Full fed in April. Pupa enclosed in a slight earthen cocoon. Thorax and wing-cases dark olive, the latter rather paler and transparent at the edges. Abdomen mahogany-red.—*Id.*

Description of the Larva of Herminia barbalis.—Pale reddish brown, rather transparent. Central dorsal line blackish. Whole of back marbled indistinctly with dark rusty red, and studded with minute dusky spots. On each side a row of slanting dusky stripes. Head dusky red. In appearance resembles in many respects the larvæ of the Satyridæ and Hesperidæ. My larvæ were beaten in September, from birch and oak, and did not feed afterwards; they hybernated till March and April, when they fed for about a week on the outer cuticle of the bark of whitethorn and gooseberry. The pupa is enclosed in a slight cocoon of silk and gnawed bark; it is rather long and slender. Thorax and wing-cases deep red, suffused with black. Abdomen rich red, with a black central dorsal line. Ventral junction of wing-cases slightly blackish. Abdominal divisions black. The perfect insect appeared in about a month.—*Id.*

Description of the Larva of Ellopia fasciaria. — Ground-colour gray. Down the centre of the back a series of ochreous-red blotches, intersected by a central line paler than the ground-colour. Each dorsal segment, with the exception of the anterior ones, ornamented with four reddish tubercles, one pair much smaller than the other.

On each side a row of slanting white streaks, forming the subdorsal lines. Belly whitish, with two or three brown dots on each segment. Feeds on Pinus sylvestris, in March, April and May. Full fed the latter month. Pupa in an earthen cocoon. Uniform bright yellowish red. Centre of wing-cases rather darker than rest of the body. Abdomen tapering. Antennæ strongly marked in serrated lines. Abdominal divisions blackish. Lively; when touched has a peculiar quivering motion.—*H. Harpur Crewe.*

Description of the Larva of Xylina rhizolitha.—Ground-colour pale bluish green. Central dorsal line white, slender, interrupted and very indistinct. Subdorsal lines yellowish white. Central dorsal line bordered on each segment by two white tubercles. Back and sides marbled with white, spotted minutely with white specks and tubercles, and sparingly strewed with white hairs. Belly smooth. Head green. Feeds on oak. Full fed middle of July. Pupa red, in a rather closely-spun earthen cocoon. —*Id.*

Description of the Larva of Cidaria prunata. — Long, tapering gradually towards the head. Ground-colour greenish gray. Down the centre of the back a series of purplish pyramid-shaped or triangular blotches darker at the sides, and becoming much curtailed in size on the anterior and posterior segments. On each dorsal segment four small white tubercles. Post-capital segment slightly enlarged and encircled by a black or purplish collar. Belly more or less marbled with dusky purple. Central ventral line interrupted, purplish, edged with yellow. Belly and sides studded with white tubercles. Bred from eggs laid in August; hatched the end of March and beginning of April. Fed on gooseberry. Full fed the middle of May. Pupa enclosed in a very slight web between leaves, long, thin, and tapering very considerably towards the abdominal tip. Ground-colour yellowish gray. Thorax much curtailed, bordered with purplish black. Central dorsal line distinct, purplish black, crossed on the thorax by two short transverse lines of the same colour. Wing-cases and abdomen spotted and streaked with purplish black. Central ventral line purplish black, broader on the abdomen than between wing-cases.—*Id.*

Description of the Larva of Larentia multistrigaria. — Ground-colour pinkish or yellowish gray. Central dorsal line blackish. Subdorsal line slender and indistinct, pale purplish brown, thicker at the segmental divisions. Spiracles and spiracular line purplish. Between the latter and the subdorsal line a waved yellowish line, with dusky edges. Segmental divisions pinkish. Belly flesh-coloured. Central ventral line broad, yellowish, having on each side a row of purplish spots. Back and belly more or less minutely spotted with purplish brown. These larvæ were reared from eggs kindly sent me by Messrs. Cooper and Holyday. They fed on Galium aparine. Galium saxatile is, I believe, the proper food-plant, but of this I had none at hand. They were full fed from the beginning to middle of June. Pupa red, in a slight earthen cocoon.—*Id.*

Occurrence of Dianthœcia capsophila in Ireland. When collecting on the coast near Dublin, last July, I took several specimens of a Noctua which puzzled me. I judged it to be a variety of a common species, but have lately ascertained from Mr. Doubleday that it is Dianthœcia capsophila, an alpine species, and rare on the Continent. This species is intermediate between Dianthœcia carpophaga and D. capsincola, and about the size of the former. — *C. G. Barrett; Dublin, November* 20, 1860.

Determination of Philonthus prolixus, a Brachelytron new to the British Fauna.— I have within the last few days determined a Brachelytrous insect, which, if I am not mistaken, is new to our fauna.

PHILONTHUS PROLIXUS, *Er.*

It is most nearly allied to P. procerulus, *Grav.*, and is easily distinguished from P. signaticornis by the antennæ not being pale at the apex; from P. villosulus by the antennæ not being entirely pale. It belongs to Erichson's 8th section, with the sides of the thorax thickly punctate, and differs from P. procerulus in being rather larger and broader. The antennæ are considerably longer, and darker towards the apex. The head is more oblong. The elytra are considerably wider, both absolutely and in proportion to the thorax: they are more distinctly and sparingly punctate, and instead of having merely the apical margins ruso-testaceous this colour extends for a considerable distance along them, in one of my specimens even beyond the middle, gradually passing into a dark piceous. I have taken three specimens at Cowley, all in July, one of them in 1858, the other two the present summer. I have also seen one specimen in the possession of my friend Mr. Rye. — *John A. Power; 52, Burton Crescent, November* 19, 1860.

Capture of Mycetophagus 4-guttatus. — During the present week I have been fortunate enough to capture seventeen specimens of the rare Mycetophagus 4-guttatus, *Müller*, of which I believe very few examples are known. They were lurking in a heap of old pea-haulm, and had manifestly been bred there, for one of them is perfectly immature, and had not attained its proper markings. I have no doubt that more might have been taken; but it was such bitterly cold work handling the wet haulm, that after a hunt of about an hour and a half I was quite beaten, and glad to give up the search.—*Id.*

Beetling at the Cape and in Java. By ARTHUR ADAMS, Esq., F.L.S.

Beetle Hunting at the Cape.—We were at the Cape during the whole of the month of April, and we found the weather fine but somewhat stormy. As you wish to know what sport there is for the coleopterist at the Cape I have much pleasure in sketching for you my experience of three insect days.

On landing almost the first beetle you see is Trogosita mauritanica, in passing through the dockyard, which is brought over in the sugar-bags from the Mauritius. We just look in at Mrs. Green's to drink a glass of ale and chaff the dusky maids, and having purchased some grapes of Rachel, the pretty fruiterer, we sally forth rejoicing.

This first day we are fascinated by the flowers on the glorious Simonsberg, and plunge at once among the Proteas, where, in company with the honeysuckers, we discover a store of beetles. In nearly every half-blown blossom we find buried a large green Cetonia, and on proceeding to dissect the flowers we discover at least six other genera, according to the state of the floral envelopes and receptacle. On the leaves of the silver tree and on the various heaths we obtain some Coccinellæ and Chilocori. On this day we make the acquaintance chiefly of the birds, especially of the crow with the white collar, and of the noisy butcher bird. We pick up a small tortoise, and see with a shudder the fatal black form of the sluggish Cape Cobra glide slowly beneath an old root.

Another day and ground beetles are our game. We select the loose stones at the foot of the mountains, where, in hot and sandy places, we take some Anthiæ, some fine large black species and some smaller white-spotted ones. Here also we find Opatrums and other Heteromera; and in the kloffs and gullies and ravines, in the humid neighbourhood of streams and watercourses, Chlænii, Harpali and Carabi turn up and reward our patient assiduity. The Caffir herdsman regards us on this sultry day with especial wonder, for while he watches his buffaloes browse, crouched motionless under the shadiest bush he can find, lo! we are toiling in the sun, turning over stones, and after all finding nothing to eat! The stragglers we met with in this day's cruise are some Cucujus-like customers and Anobiums, under the bark of a hollow tree near the pretty cottage on the hill-side, where we gather delicious mushrooms, we secure a Colymbetes in a cattle pond, detect a Lagria and a Copris promenading a sheep-walk, and by the sides of the sandy road, which is much used by buffaloes, a large black Ateuchus is observed shoving along balls of dung with his crooked hind legs.

On the third day we are bound for Miller's Point, along the coast, and our venture is carrion beetles. We pursue an uneven course, up sand hills and down sand dales, until a boulder covered with the trailing stems of the yellow Mesembryanthemum arrests our eye. The green carpet is torn off from the surface of the stone. Out run the Staphs, and down drop the scorpions, while the nimble yellow centipedes vanish mysteriously with that unpleasant wriggling motion peculiar to Myriapods and Ophidians.

About two miles to the left of Simon's town we cross a plain, where the grass struggles for existence with the sand, and where the round green gourds of the Colocynth rest upon the ground, like shot strewing the surface of a battle-field; a thousand foot-prints of horses stamped in the moist sand (for the ground is used for breaking in horses) heightens the resemblance. On a sudden a taint in the pure air offends our nostrils, but we know it, and, like the vulture to his carrion meal, we are led by the nose to the carcase of a sheep. Placing our "nobility" to windward we capsize the defunct mutton, and Necrophori, Histers and Dermestes reward the bold adventure.

We are now, after walking some little distance, close to Miller's Point, and approach the great flat wild-looking rocks where they haul up captured or stranded whales by chains and windlasses and strip the bones off the flesh and blubber. All around are stray fragments of the mighty fish-like mammals, and turning over a dorsal vertebra (with effort, for it is a large bone) perchance we secure a Silpha, or by a delicate investigation of an unsavoury fathom of "baleen" we possibly appropriate a Cercyon or a Catops.

On our return we descend the sand hills near the sea, and by the "ancient and fish-like smell" we become aware of the vicinity of a station of cleaning and drying fish. We raise a casual board, and behold! the under side is alive with Brachini about an inch long, numbers of them exploding in a most bombadier-like manner, while others are making themselves scarce as fast as their six legs can carry them. The vapour of this large species is very acrid, and leaves a permanent yellow stain on the fingers.

Occurrence of Prognatha in Java.—Now that Staphs, once much abused and shamefully neglected, are become fashionable among beetles, I know I shall be commended if I record the capture of a species of Prognatha (a very singular genus of a very singular group) in the forests of Java, under precisely similar circumstances as those attending the capture of P. quadricornis in England.

In that dear country from which, alas! I have been these four years banished, I remember taking the insect in the good old days when Dr. Power, E. Shepherd, my brother Henry and myself used to trespass on the pheasant preserves and haunt the green bye-lanes of Southern Hampshire, not without exciting suspicion in the minds of certain gentry in velveteen shooting-coats that we were either vagrants, poachers or incendiaries. Seated on the trunk of a noble elm whose head had recently submitted to the axe, we idly peel off the Scolytus-eaten bark, where, lying "perdu," we discover Prognatha quadricornis. By the way, should my observations anent Prognatha or any other "small beast" be considered neither very succinct nor much to the point, but, on the contrary, extremely rambling and incoherent, the failing I would suggest might charitably be ascribed to a sailor's proverbial love of "spinning long yarns."

To return, however, to Java, if not to Prognatha. We are watering at Mew Bay, near the entrance to the Straits of Sunda. A beautiful little cascade falls down a rock into the sea, under the cool shade of dark-leaved trees, where the water-casks are filled without let or hindrance. There is a legend among the sailors of a rhinoceros having charged a party watering here some time previously, which exciting incident, if ever it occurred, lends an additional charm to the spot in the eyes of these danger-loving sons of the sea. In sober truth the ground is literally ploughed up by the tracks of these huge unwieldy Pachyderms.

Instead of landing at the watering-place we prefer making a little *détour* through the forest, at no great distance from the shore. Dead, hoary, lichen-covered, fern-tufted trunks lie prostrate in our path, and great, green, orchid-hung branches overshadow the snow-white coral strand which gleams below. Our progress at first is slow and difficult, but as we go we hunt. The first fallen tree we turn over discovers a slender green snake with a turned-up pointed nose, and which said Ophidian, being active and vigilant, very naturally makes his escape. The next fern-grown trunk exhibits two ugly black scorpions, of a formidable size, affectionately coiled round a numerous progeny. With cautious care, for we suspect their venom to be potent, we pass a running noose round their knotted tails, and secure the parents of this interesting brood by suspending them to a convenient twig. As for the little ones it is a second " Massacre of the Innocents ; " every tender scorpion is mercilessly butchered. And talking of scorpions reminds me that I have at times induced " parties " to believe I possessed the power of taming these most antipathetical Arachnidans and their equally respected Myriapodous relatives, the Centipedes. The black art of the mystery-man, however, simply consists in surreptitiously snipping off the tip of Scorpio's sting and the hooks of fell Scolopendra's jaws with a pair of scissors. Deprived of the power to penetrate the skin, these noxious insects are then permitted to enjoy undisturbed a ramble over the face and hands of the exhibitor. At Pratas' Island, however, the conjuror himself is actually stung by a small scorpion, and he calculates the pain to be about equal to the sting of an irate British wasp, with which of course he has been acquainted both as man and boy. Next we come to a promising dead tree covered with Boleti, eating which we find Mycetophagi of goodly size, and of a black and red pattern.

Stripping off a portion of the loose and partially detached bark, out runs a little dusky, splay-footed, flat-bellied gecko, who is instantly made a prisoner, not, however, without the loss of his tail; a couple of yellow centipedes follow his example, drop on the ground, and vanish in a most desperate hurry; numerous small Juli are coiled up in the rotten wood, and under damp close-laid masses of bark are the flattened bodies of the Prognathæ; they are deep chesnut-brown, and somewhat larger than the European species. Small trickling rivulets permeate the undergrowth in this wild jungle-corner of Java. Stooping down to take a drink at one of these (for the thermometer here stands at 90° in the shade) I start. Robinson Crusoe when he saw the "print of a man's foot in the sand" could not have been more completely taken aback. Under my very nose the fresh impress of a tiger's paw is manifest. My outspread hand just covers it. Aware, however, of of the crepuscular habits of these cat-like monsters I am speedily reassured, and the presence of some long-spired Melaniæ in the stream diverts my attention from this ominous trace of the much-dreaded man-slayer. Two villages in the immediate neighbourhood are deserted, having been recently desolated by tigers.

Among the foliage of the trees Nanina citrina is discovered, and under the *débris* and dead twigs a fine spotted species of Pythia (P. pantherina of A. Adams) is found, while pretty silver-marked Cassidæ alight on the sunlit blades of horizontal leaves, and, without ceasing, the loud grating noise of Cicadæ vibrates through the wilderness.

And here I really must relate a ludicrous incident that happened to my friend B——. Anxious to explore the tiger-haunted precincts of one of the deserted villages, he is confronted on his way by a stream. Nothing daunted, however, he plunges in and swims to the opposite bank. Here he finds a smouldering wood fire, which he gaily replenishes, and then hangs up his dripping "inexpressibles" on a stick to dry. In his now somewhat primitive costume he then proceeds to examine with the eye of a hunter the tracks of rhinoceros and other "*feræ Naturæ*," which, he states, do greatly abound there. Having satisfied even *his* curiosity, our young friend goes of course to the bank of the stream to reclaim his nether habiliments. Alas! nothing but a burnt shred is visible. No choice remains but to make his way back through the difficult jungle, defiant of scratches, insensible to thorns, and eventually to present himself on board, an object of astonishment to his beloved messmates.

ARTHUR ADAMS.

Note on Dinarda Maerkelii, &c.—In June and August of this year I was considerably gratified by the discovery of Dinarda Maerkelii, in the nests of the wood-ant, in the neighbourhood of Killiekrankie. At the later date the insect was emerging from its pupa. In the same nests were found Homolota flavipes and H. anceps, Thiasophila ——? Leptacinus Formicetorum, Dendrophilus pygmæus, Euplectus Karstenii; and in the same wood, under leaves, Myrmedonia humeralis. Some smaller Brachelytrous creatures also occurred, but they require further investigation. —*Robert Hislop; Blairlodge, Falkirk, November* 24, 1860.

A few Observations on Cynips Lignicola and C. Radicis.

By Frederick Smith, Esq.

In the year 1857 I felt desirous of satisfying myself as far as possible, by my own observations, of the truth of the opinion at that time put forth, by more than one eminent entomologist, that in the genus Cynips there is only one form of sex; in other words, that in the genus Cynips there is *no male!*

In order to carry out my experiments, I obtained from Devonshire a large supply of the galls of C. Lignicola, somewhere about a bushel and a half; every gall was tenanted by the Cynips, or its parasite Callimome devoniensis. About the beginning of April, 1858, the Cynips began to issue from the galls, and continued to do so up to the end of May, at which time I could not have obtained less than twelve thousand examples, and many hundreds of its parasite.

By examining the galls daily during the progress of the development of the flies, I was enabled to examine the whole of the latter, and to satisfy myself that all of this immense number were females. I also placed about sixty galls in as many separate boxes, and when the Cynips came out I carried them to different localities in the vicinity of London, placing them upon low oaks in woods and hedges. In the month of August I revisited the various localities, and in about eight cases out of twelve I found galls formed upon the very trees on which I had placed the Cynips, but none in their vicinity. From these galls I again obtained the Cynips, and this brood I also placed in isolated situations; and again I found galls formed in about the same proportion as in the previous instance. In neither of these cases could there have been any connexion with the male sex, unless that sex be of microscopic dimensions.

In 1859, and also during the present season, I have obtained a number of galls of the gregarious species, Cynips Radicis of Fabricius; this gall is sometimes as much as two inches in diameter, and contains an immense host of individuals. From galls of this description I obtained about twelve hundred flies, all of which I have carefully examined, and am satisfied that all are of the female sex.

On several occasions I have bred numbers of Cynips aptera, but, as in the preceding cases, all proved to be females.

I do not know whether any one has distinguished the sexes of Acari; I have failed to do so; and it has appeared to me, in one instance at least, that there is apparently no distinction of sex: I am led to imagine, judging from what I have observed, that the species might be perpetuated for ever without, so far as I can see, any intervention of a male sex. In 1853 I obtained a large supply of the larva of Anthophora Acervorum; these I placed upon a bed of wool in a flat box; the majority of the larvæ were in the earthen cells formed by the bee. In the autumn a few changed to pupæ, then to perfect insects; the rest passed the winter in the larva state. On the return of spring I examined the contents of the box; all were in the larva state; but to my mortification numbers were attacked by a species of Acarus: this species is described by Newport in the 'Linnean Transactions,' where an account of its habits is given at length. The Acarus is of small size, and has a globular, semi-transparent abdomen, rather smaller than a mustard-seed; the thorax is short, and has attached to it a number of apparently useless legs, for the head of the creature is buried in the body of the bee-larva, which, as far as has been observed, it never quits, but remains in a stationary position during life, feeding upon the body of the bee-larva; when it arrives at a state of maturity it dies, still attached to the larva. Nothing now is left of its victim but a dried, shrivelled skin; all motion ceases on the part of the Acarus, when the swollen abdomen bursts, scattering atoms of dust on everything around it, these atoms being in fact the eggs of the Acarus. Not less than forty Acari attack a single bee-larva. A small portion of this dust, sprinkled upon a larva, invariably produces the Acarus in a few days' time. Some of this powder which still remained in a few of the earthen cells which I had by me last year, it being six years since I obtained it, produced the Acarus when sprinkled on the larva of Anthophora. Now, although I have examined these Acari repeatedly under the microscope when feeding, I have never observed the slightest difference amongst them in form or otherwise; all were, apparently, permanently attached to the bee-larva from the time of their birth to the time of their death. By what process the eggs are fertilized I am at a loss to conjecture. Apparently the only mode whereby eggs become fertilized in the body of the female is by copulation of the sexes; but is it not possible that some other mode may exist? Every observation which has been made on the genus Cynips is against the possibility of the existence of an active male; it is proved that females, which could not have been fertilized by copulation, deposit eggs which are fruitful.

Leon Dufour has reared Cynips by thousands from different species of galls. Hartig has obtained twenty-eight species of Cynips, all females, from different kinds of galls; in one case, that of Cynips divisa, at least 10,000 females, and about 4000 of Cynips Folii: he has also observed the female Cynips issue from the gall, and immediately proceed to deposit her eggs. In fact, all observation, as I have already observed, is opposed to the existence of an active male in the genus Cynips. I may also add that during the past autumn I have bred numbers of Cynips Folii from the cherry-gall of the oak-leaf, all being females.

I do not profess to have made any notable discoveries during the various investigations which I have prosecuted during the last three years; all that I have done is to confirm the observations of others, and to remove from my own mind an impression that there must have been some mistaken observation on the part of those who arrived at the conclusion that Cynips has no male; but instead of discovering any inaccuracy of observation, or anything to confirm the doubts I had before making my experiments, I have ended by adopting the opinion which I deemed so incredible.

As far as I am aware, there appears to be an absolute necessity for eggs being fertilized by some process or other, in order to perpetuate the species. If this be the case, the question arises,—In what way are the eggs of Cynips rendered fruitful? in what manner is this effected? Can it be a possibility that spermatozoids are engendered in the body of the female Cynips, and the eggs fertilized before oviposition? This will doubtless appear to be an extravagant, nay even a wild theoretical idea; but if fertilization is necessary, then it appears to me that it must be effected by some process with which, in the insect world at least, I am not acquainted. If this be not the case, still I must confess that I see at present, judging from the evidence before me, no other conclusion at which I can arrive than that Cynips has no male.

In the course of my observations on the breeding of Cynips from galls there appears to be established a fact with which I was not previously acquainted, namely, that Cynips has a cynipidous parasite, in the same way that we find nest-building bees intruded upon by what have been called cuckoo-bees, that is to say, bees which do not build nests, and deposit their eggs in the nests and upon the food stored up by their more industrious brethren; thus I find that the gall formed by Cynips Lignicola occasionally produces a species of Decatoma, but I do not know whether the same gall produces the Cynips also; hundreds of the larvæ of Cynips Lignicola are preyed upon by its parasite, Callimome devoniensis.

Cynips Radicis has two cynipidous parasites; one a species of the genus Rhodites of Hartig; the other I have not determined. Of the cynipidous parasites it must be borne in mind that both sexes are developed in the ordinary numbers which we observe in cuckoo-bees; this species has also a chalcididous parasite which destroys its larva namely, Callimome Cynipidis.

FREDERICK SMITH.

December, 1860.

Proceedings of Societies.

ENTOMOLOGICAL SOCIETY.

December 3, 1860.—J. W. DOUGLAS, Esq., President, in the chair.

Donations.

The following donations were announced, and thanks ordered to be presented to the donors:—'Nouveaux Mémoires de la Société Impériale des Naturalistes de Moscou,' Tomes xi., xii. and xiii. 'Bulletin de la Société Impériale des Naturalistes de Moscou,' 1859, Parts 2, 3 and 4; 1860, Part 1; presented by the Society. 'Bibliotheca Historico-Naturalis,' Vol. x. Part 1; by the Author, E. Zuckold, Esq. 'Tijdschrift voor Entomologie,' Vol. iii. Parts 4, 5 and 6; by the Entomological Society of the Netherlands. 'Stettiner Entomologische Zeitung,' Vol. xxi. Nos. 10, 11 and 12; by the Entomological Society of Stettin. 'Journal of the 'Proceedings of the Linnean Society,' Vol. v. No. 18; by the Society. 'The Entomologist's Weekly Intelligencer,' Vol. viii., and Nos. 205—217; by the Editor. 'The Zoologist' for December; by the Editor. 'Mein Aufenthalt auf Taiti;' 'Reise von Shanghai bis Sidney;' 'Beitrag zur Fauna Dalmatien's;' 'Ueber die ersten Stände von Plinthus Megerlei, *Pz.*;' 'Mein Aufenthalt in Rio Janeiro;' 'Beitrag zur Insectengeschichte;' 'Ueber einen bisher verkaunten Laufkäfer, beschrieben von L. Miller: und einen neuen augenlosen Russelkäfer, beschrieben von F. Schmidt: ferner einige von Schmidt in Schischka neu entdeckte Höhlenthiere;' 'Beobacklungen über die Entwicklungsgeschichte der Chionea araneoides von Dr. J. Egger und G. Frauenfeld, nebst Anatomie des Insectes und der Larve von Dr. F. Brauer;' 'Ueber die Sommerbeschäftigung eines Theiles der Bewohner des Wienerwaldes, St. Paul,' Parts 1 & 2; 'Bericht des Henn Custos-adjuncten G. Frauenfeld über den Erfolg der ihm gewordenen Mission die Weltumsegelungs-expedition S.M. fregate 'Novara' als Zoologe zu begleiten;' 'Ausflug nach dem Adamspik auf Ceylon;' 'Notizen über die Fauna Hongkong's und Schanghai's;' 'Notizen gesammelt während meines aufenthaltes auf Neuholland, Neuseeland, und

Taiti;' presented by G. Frauenfeld. 'The Journal of the Society of Arts' for November; by the Society. 'The Athenæum' for November; by the Editor. 'List of the Specimens of Lepidopterous Insects in the Collection of the British Museum,' by Francis Walker, F.L.S., &c., Part 21, Geometrites (continued); by the Author.

Election of a Member.

Mons. Henri de Bouvouloir, of No. 15, Rue de l'Université, Paris, was balloted for and elected a Member of the Society.

The President announced that Mr. W. W. Saunders had kindly undertaken to receive the subscriptions from members of the Entomological Society of France resident in this country, and that the 'Annales' of that Society would be forwarded to him, and be delivered to members so paying, at his office, No. 13, Copthall Court, London.

Exhibitions.

Mr. Stevens exhibited some Coleoptera sent from Ceram by Mr. Wallace, including Eucheirus longimanus, Monohammus Grayii, and other fine species.

Mr. King exhibited a singular variety of Camptogramma bilineata, and two specimens of Leucania putrescens taken near Torquay.

The Rev. A. R. Hogan exhibited specimens of Niphargus Kochianus, *Spence Bate*, a species of well-shrimp discovered by him, along with two other new species, at Ringwood, in the New Forest. They were afterwards found in several other places, those before the Meeting being from Upper Clatford, near Andover. One of the most remarkable facts connected with Niphargi was their occurrence in recently-sunk wells; they have in more than one instance been drawn up in large numbers by pumps not two years's sunk. Their organization is of a very high character, but most of the species, both in this country and on the Continent, are destitute of eyes. When in captivity the movements of these Crustacea are exceedingly interesting, being graceful and active, as well as peculiar; but there is great difficulty in keeping them alive for any length of time, owing to their sensitiveness to temperature; a very cold atmosphere at once deprives them of life. The limbs are also very fragile; so that it is difficult to transmit them with safety by post. The size of the largest species as yet found in England, N. fontanus, reaches about half an inch. A description of the British Niphargi and of their habits was made public in the 'Natural History Review and Quarterly Journal of Science' for 1859, in papers by C. Spence Bate, Esq., and the Rev. A. R. Hogan; and a more complete account will be given in the British Museum 'Catalogue of Crustacea,' now in the press.

Mr. Hogan also exhibited a female specimen of Chirocephalus diaphanus, taken at Shaftesbury, in Dorsetshire, last summer, furnishing a new locality for one of our largest and most beautiful fresh-water Crustaceans.

Mr. Lubbock said he was very glad to see some exhibitions which were a little out of the ordinary course. Both the animals now exhibited by Mr. Hogan appeared to be very local. He had himself some time ago brought to a meeting of the Society some blind shrimps from a well at Brighton, and some specimens of Chirocephalus diaphanus from a pond in Kent, between Bromley and Sevenoaks. He believed that the present was the most northern locality in which this beautiful and interesting Crustacean had hitherto been found.

Mr. Lubbock then exhibited some specimens of Campodea Staphylinus, *Westw.*, which he at first supposed to be Neuropterous larvæ. They were found under slices of turnip which had been placed as a trap for Myriapods.

Mr. Lubbock also exhibited some specimens of Sphærularia Bombi, a parasite of the humble-bee, which was first discovered by M. Leon Dufour, and subsequently observed by Siebold. Mr. Lubbock stated that he had himself found these parasites in the females of every species of Bombus which he had examined. As the mature form of this parasite only is known, he was very anxious to obtain some Bombi during the winter, in order to determine, if possible, the process of development, and to throw some light on the manner in which the young parasites effect an entrance into their victims: he should therefore be much obliged to those entomologists who would forward to him any hybernating Bombi which might be found while searching for insects during the winter months.

Mr. Westwood exhibited a singularly pale variety of Alcis repandata, taken by Mr. Daubeny, of Magdalen College, Oxford, the markings forming a link between the typical insect and the variety named "conversaria" by Hübner, the subapical strigæ being very acutely undulated, and preceded by a large, nearly black patch.

Mr. Westwood observed that his attention had recently been drawn to a specimen of Eristalis similis, *Meig.*, presented to the Hopeian collection in Mr Well's cabinet of British insects, in which the head is entirely enveloped in the thin, semitransparent pellicle forming the true pupa-skin; the upper part of the head being, moreover, surmounted by the transverse lunate piece of the indurated head-covering of the larva, through which the two horns of the so-called pupa had been protruded. This lunate piece is represented by Réaumur (Mém. iv. pl. 33, fig. 6, d, d); and as, in looking at the head from the front, the open space between the upper part of the pellicle and the lunate piece is seen to be traversed by two internal prolongations of the horns, extending to the pellicle itself, it seemed not improbable that these two horns are the antenna-cases.

Mr. Westwood further directed attention to the statement made by Mr. Curtis, that the death's-head moth, on emerging from the chrysalis, has its legs enveloped in thin pellicles, subsequently cast off; and suggested whether this pellicle was not analogous to the thin skin cast by the May flies after their first flight, and which appears equally to be identical with the thin pellicle covering the bodies of the pupæ of coarctate Diptera, such as that of the Eristalis mentioned above. Monsters of this kind are of great rarity, a Noctua described by Müller ('Naturforscher,' St. xiv. pl. 4, figs. 1—3), and a butterfly, Nymphalis Populi, figured by Wesmäel (Bull. Acad. Bruxelles, t. iv. No. 8), being the only recorded instances. A Dysticus, however, in Mr. Bowring's collection, and an Emperor moth in Mr. Stephens's cabinet in the British Museum, also agree with the preceding, retaining, in the perfect state, the head-covering of the larva.

Mr. Waterhouse exhibited two species of Donacia which he had compared with the Leptura aquatica and L. sericea of the Linnean collection. The latter is the Donacia sericea of modern authors; the L. aquatica of Linnæus differs in being a rather shorter and stouter insect. In D. sericea the thorax is broadest in front, and considerably contracted behind the middle; the anterior angles are as prominent as the lateral hump or swelling which lies immediately behind them. In L. aquatica the thorax is rather shorter, nearly quadrate, less contracted behind; the anterior angles are not so prominent as the lateral hump, and this hump is rather smaller; the surface of the thorax is more rugulose, and the dorsal impression is more distinct. In

D. sericea the third joint of the antennæ is elongate-obconic, and decidedly longer than the second; whilst in L. aquatica the third joint of the antennæ is short-obconic, and very little exceeds the second in length. In both sexes the antennæ are longer in D. sericea than in L. aquatica; the legs are also rather longer. In L. aquatica the tooth to the hind femora is stouter, and the joints of the tarsi are shorter and broader. Such are the differences which present themselves upon comparing the insect exhibited to the Society, as being similar to the L. aquatica of the Linnean collection, with the Donacia sericea. Mr. Waterhouse could not say whether these differences are all of them constant. The specimen exhibited was taken at Rannoch, in Perthshire.

Mr. Waterhouse observed that since the last Meeting he had examined certain Cassidæ in the Linnean collection which might be referred to British species. They were:—

1. Cassida viridis. This is not, as has by many been supposed, the C. equestris, but is the species commonly found by us on thistles, having acute posterior angles to the thorax, and punctate striæ to the elytra. = C. rubiginosa of Bohemann.

2. C. nebulosa = C. nebulosa of Bohem.

3. C. Murræa = C. murræa of Bohem. The rufous-brown variety.

4. C. maculata = C. murræa of Bohem. The green variety.

5. C. nobilis = C. obsoleta of Bohem. Has the margins of the elytra reflexed, the alternate interstices of the striæ of the elytra slightly raised, and the region of the scutellum depressed.

6. Cassida Vibex = C. nobilis of Bohem. The specimen is apparently discoloured; the whole dorsal surface of the elytra is darkish brown, if we except the second interstice, which is pale, and which no doubt, in the living insect, was occupied by the bright green stripe; the dark colour occupying the first interstice and the 3rd and 4th interstices of the striæ, but stopping considerably short of the apex; the remaining upper parts are paler: the under parts are black, the sides of the abdomen rather narrowly edged, and the apex very narrowly edged with pale. The thighs are black, excepting at the apex, and the tibiæ and tarsi are piceo-testaceous (the anterior tibiæ piceous), which is unusual. The expanded margins of the elytra are deflexed. Mr. Waterhouse considered that this must have been the C. nobilis of the 'Fauna Suecica,' and does not really represent that described by Linneus under the same name.

Mr. Rye exhibited a specimen of Choleva spadicea found in a fungus at Coombe Wood.

Dr. Knaggs exhibited some eggs of a Lepidopterous insect from which small Hymenopterous parasites, apparently a species of Mymar, had emerged; and some eggs of Sesia bembeciformis found deposited on a sallow-leaf.

Mr. Stevens exhibited some small Staphylinidæ recently found in moss, including Evœsthetus scaber, Acidota cruentatus, Stenus fuscicornis? and Syntomium æneum.

Mr. Waterhouse read a paper intituled "Notes on the Species of Triplax of Stephens's 'Illustrations' and Collection."—*E. S.*

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